

# AMERICAN NURSERYMAN

*The Nurseryman's Forte: To Make America More Beautiful and Fruitful*

MARCH 1, 1938



**Prunus Subhirtella Autumnalis**

Spraying Shade Trees  
Specimen Production of Junipers  
Heron's-bills for the Hardy Garden

# AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

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## ASSOCIATION ORGANS.

Among the organizations keeping in touch with its members regularly through a periodical bulletin is now the Virginia Nurserymen's Association. Two sheets of letterhead size are mimeographed on both sides and titled "V.N.A. News." It is prepared by A. G. Smith, Jr., of the department of horticulture of the Virginia Agricultural and Mechanical College and Polytechnic Institute, Blacksburg, Va., and is mailed out as a part of the extension work of the institution.

This is not the only mimeographed bulletin for nurserymen mailed out at government expense—the well known "Nursery Notes" prepared by L. C. Chadwick is sent out as part of the government agricultural extension service in Ohio, and "Nursery Disease Notes" is issued monthly by the department of plant pathology of the New Jersey agricultural experiment station. In Oregon a 4-page monthly printed bulletin carries news and information to nurserymen of the state, sent out by the nursery bureau of the state department of agriculture.

While so many other folks are availing themselves of government assistance, it might pay the nurserymen of still other states to ascertain whether a periodical bulletin might not be sent out under the agricultural extension service, relieving the state association of the expense.

The Michigan Association of Nurserymen has issued a monthly 4-page printed bulletin during the

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past year, and the New Jersey Association of Nurserymen has issued "Horticultural Topics," the members contributing advertising to defray the expense in both cases. That could be saved if the agricultural extension service in those states would cooperate as in the others mentioned.

Of course, it is necessary to have some capable individual prepare these bulletins, and from the number of association organs that have been started and later faded away, it is obvious that not many nurserymen are prepared or have the time to assume the editorial functions of such sheets, however small their size. But in nearly every state one or more individuals in the extension service are already coöperating with nurserymen and might perform this service, as others similarly situated have done.

As the trade's national periodical, the American Nurseryman prints full news of state association activities, and its columns are always open for announcements and reports. The magazine does not seek to divert to association bulletins any of the work it should do, nor does it regard them as competitors either. In such association bulletins there is a place for small chat and material of strictly local interest. But most important is the contact an association keeps with its members through the year. That has been an important factor in obtaining and keeping members who otherwise fail to see what they get out of a state association if they do not attend annual conventions. Hence this commendation of the work to associations which have not tried it.

## PRUNUS SUBHIRTILLA AUTUMNALIS.

The autumn-flowering Higan cherry, *Prunus subhirtella autumnalis*, illustrated on the front cover, is a novelty that should have widespread appeal by virtue of the fact that it blooms both in autumn and spring. This characteristic is a made-to-order selling point for the nurseryman. What actually happens is that part of the semidouble pink flowers open in autumn and the rest in spring. March or April and October are the usual blooming months. The Japanese name

for this flowering cherry as given by Standardized Plant Names is Jugatszakura. A few nurserymen offer this form, but its possibilities are virtually untouched.

As can be seen in the cover illustration, the growth is bush-like and rather urn-shaped. Fifteen feet is a good maximum height for this form, as contrasted with thirty feet in the type. Propagation from cuttings is probably the best and simplest method of reproduction, though this form can be grafted or budded on seedlings of the type; that is, the Higan cherry *P. subhirtella*. *Autumnalis* has proved hardy at the Arnold Arboretum, Jamaica Plain, Mass., and even farther north along the Atlantic seaboard, and since the Higan cherry has been found dependable at the Morton Arboretum, Lisle, Ill., just west of Chicago, it is felt the fall-flowering form would prove equally hardy.

The late E. H. Wilson recorded some interesting comments concerning *autumnalis*: "The flowers in autumn are smaller than those of spring, and in each case when the flowers are produced before the leaves or after the leaves have fallen, the peduncle does not elongate and the plants present no striking differences. But on some individuals in the spring the leaves and flowers unfold at the same time and the peduncle is then much elongated. Such specimens look utterly dissimilar, yet whether the flowers open before or at the same time as the leaves is not fixed and may vary on the same individual from year to year."

Here then is a plant with exceptional publicity possibilities, for a cherry in bloom in autumn is invariably good for some space in the editorial columns of your local newspaper, often accompanied by an illustration, and enterprising nurserymen should be able to swell their spring volume with this novelty flowering cherry.

CHECK names carefully that are added to your mailing list, particularly if you are seeking a select clientele. The value of your mailing piece is wasted if it is addressed to John P. Customer when his name actually is James P. Customer, or if there is some error in spelling.

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**The Chief Exponent of the American Nursery Trade**

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## Spraying Shade Trees

*While Trees Are Still Dormant, Nurserymen Can Offer Spraying Service,  
to Insure Success of Customers' Plantings and Add to Business Volume*

Maintaining customers' plantings after jobs of landscaping have been completed makes continued friends for the nurseryman. Of course, he charges for his services in trimming, pruning, spraying, etc. By advising customers of the improvement in their plantings by such attention, he wins their patronage of his expert maintenance service, usually beyond even the advanced amateur gardener.

Because efficient shade tree spraying requires high-powered equipment too expensive for ordinary ownership, this particularly is work for the nurseryman to do. Tree owners should be advised of the protection given by proper spraying. A dormant spray, an early foliage spray and a special spray should be applied to most shade trees each year.

The dormant spray is applied just before the buds open in the spring, but while the trees are still dormant. This spray provides a general spring clean-up and prevents the development of many minor pests, which might otherwise become established, but it is not sufficient protection for the whole season, as it is frequently considered. It is designed to combat such insects as the spruce gall aphid, the pine bark aphid, the San José scale, the elm scale and various spider mites which hibernate on the trees and are thus exposed to the effects of the spray. The oyster-shell scale and the pine leaf scale also are partly controlled, but may require additional attention later. Miscible oils, oil emulsions and lime-sulphur are used in this spray. Each is efficient when used correctly and the choice among them varies with conditions.

For example, lime-sulphur discolors paint and should not be used where the spray will fall on buildings. The oil sprays should not be used when freezing weather is likely to occur within forty-eight hours of the time of application. Certain trees, especially maple, beech and hickory, may be injured by overdrenching or by a high concentration of oil.

The early foliage spray is generally the most important of the sprays, for it is designed to protect the foliage from chewing insects such as elm leaf beetles, gypsy moth caterpillars and cankerworms on deciduous trees and sawflies, webworms and weevils on evergreens. This spray should be applied as soon as the leaves become full grown. Lead arsenate at the rate of four or five pounds to each hundred gallons will give protection against fungous diseases and make the spray complete. For most shade tree spraying, it is well to omit the nicotine and sulphur unless there is a definite need for them.

When using an oil sticker, the lead arsenate should be mixed with a little water to form a thick paste. The oil should be added slowly and beaten into the paste until the mixture assumes a uniform paint-like quality before it is poured into the spray machine. If aphid, leaf hoppers or other sucking insects are present, the addition of one pint of forty per cent nicotine sulphate to each hundred gallons of spray will control them. Wettable sulphur at the rate

of five pounds to each hundred gallons will give protection against fungous diseases and make the spray complete. For most shade tree spraying, it is well to omit the nicotine and sulphur unless there is a definite need for them.

This early foliage spray is especially necessary on elms for the control of elm leaf beetles and cankerworms. Oak and birch are favorite food trees of the gypsy moth caterpillars, but almost any species of tree will be attacked and should be sprayed. The foliage of willows, which is skeletonized by the willow leaf beetle, and that of poplars, which is attacked by the satin moth, are smooth and glossy, making the use of a sticker exceedingly important.

Where lead arsenate cannot be used because of the danger of poisoning domestic animals, it is possible to obtain good control of caterpillars with sprays of derris, or cube. These materials are nonpoisonous to warm-blooded animals, but they are relatively expensive and their activity as insecticides disappears in about a week. Derris, or cube, is available as a liquid extract, containing from one to one and one-half per cent rotenone, or as a powder. The extract should be diluted at the rate of one quart to 100 gallons of water. The powder, which consists of the ground root of the derris, or cube plant, is used at the rate of five to ten pounds in 100 gallons of water. This powder must first be mixed with a wetting agent, such as soap, or one of the new commercial spreaders made from sulphated alcohol, before it can be used. A wettable derris, or cube

powder is now available commercially.

Special sprays are necessary to prevent serious damage by the less common pests and nearly every tree may require one or more of these special treatments. Most of these pests are sucking insects, such as the oyster-shell scale on ash, willow and lilac and the pine leaf scale on Mugho and Scotch pines, which are killed only by contact with the spray and against which little or no protection is obtained from regular treatments.

These scale insects spend the winter as eggs in groups beneath the scale covering. If the scale covering is loosened from the twig in the winter or early spring, the eggs fall out like grains of powder. Dormant sprays of oil or lime-sulphur can reach these eggs only by creeping beneath the edges of the scale and consequently only those in the outer edges of the group are wet and killed. Crawlers begin to hatch from the living eggs about the first week in June and continue hatching for three or four weeks. They are easily killed during this period by an application of nicotine sulphate—one pint in 100 gallons of water. A second application about ten days later is sure to control them.

*Aphis* frequently develop in enormous numbers on Norway maples; in addition to the injurious effect of their feeding, they secrete a sweet, sticky honeydew which literally messes up everything around the tree. One or two applications of nicotine sulphate and soap effectively controls them. Lace bugs on sycamores, lindens and hawthorns are annual pests which require special sprays with nicotine sulphate when they appear. The addition of soap to the nicotine sulphate spray always increases its effectiveness and it should be used at the rate of two pounds to 100 gallons of spray. When nicotine is used with lead arsenate or sulphur, the soap should be omitted.

#### PEACH X DISEASE.

The disease, called X because previously nothing was known about it, was first found in Connecticut orchards five years ago and is said to have made rapid progress since that time. It is characterized by premature yellowing and dropping of leaves on peach trees. The fruit will drop early

or be worthless, and eventually the tree may die. There is belief that the choke cherry is a carrier, as diseased cherries were found in the vicinity of every peach orchard where the infection appeared. Hence the removal of choke cherries near peaches is recommended.

#### SCURFY SCALE.

As results of tests made with a large number of insecticides for scurfy scale on apple trees, it has been found by the New York experiment station staff that treatments applied early in the spring before the eggs hatch are the most effective. For this purpose some of the newly developed oils have proved effective, such as the coal tar oils, combinations of coal tar and lubricating oils, and so-called D. N. oil, which is lubricating oil in which has been dissolved dinitro-oxyhexylphenol. Later on, in July, when the "crawlers" are active, applications of nicotine protect the fruit against infestation.

For the early applications, the best results have been obtained with oil sprays. Because these sprays injure green tissues, they must be applied while the trees are quite dormant. Spraying should be done during mild weather in the early spring before the apple buds advance to what fruit growers know as the "silver tip" stage. These sprays are aimed at the eggs. If the young nymphs or "crawlers" are allowed to hatch from the overwintering eggs, they will serve to spread the infestation to other trees, being carried by air currents and possibly on the feet of birds.

#### AZALEA FLOWER SPOT.

Satisfactory control of azalea flower spot disease under nursery conditions was obtained by semiweekly applications of copper-kaolin dust throughout the blooming season, though this is not a practicable control in show gardens, stated Freeman Weiss and Floyd F. Smith in a paper on the present status of azalea flower spot presented at the annual meeting of the American Society of Horticultural Science at Indianapolis in December.

This disease occurs throughout the south Atlantic and gulf coast region from Wilmington, N. C., to central Louisiana. It chiefly affects cultivated azaleas of the Indian and Kurume

groups. Native azaleas, though susceptible, have not been found infected in nature. Environmental requirements for infection parallel the conditions favorable for host blooming and are approximately satisfied in both greenhouse and outdoor azalea culture whether in the south or north. The pathogen is disseminated by the transportation of infected blooming plants and also, apparently in the soil, with non-blooming plants. Its survival between flowering seasons outside its present range has not been demonstrated. Several native plants besides azaleas, including rhododendrons, kalmia and vaccinium, are potential hosts. Insects were apparently not responsible for initiating primary infections on azaleas, but became efficient carriers during the height of bloom, and can be important factors in spreading the disease throughout a planting, or introducing it into near-by plantings.

#### RHODODENDRON WHITE FLY.

The rhododendron white fly was first found in England in 1926, and in 1932 it was intercepted on plants imported from that country. Since then, infested areas in this country have been found in the Puget sound section in 1933, on Long Island in 1934, in Tennessee in 1935 and in West Virginia and Pennsylvania in 1936.

The white fly works on the underside of the leaves, and by its feeding causes a yellow mottling to appear on the upper surface of the leaves. Further unsightliness is caused by the sooty mold fungus on the lower leaves. This fungus is aided by the honeydew dropped by the white fly larva. While this pest has not caused extensive damage as yet, its potentialities may be viewed with alarm.

Observations would seem to show that the only hosts for this pest are the evergreen rhododendrons. Furthermore, those species and varieties which have especially thick, leathery leaves or develop scales or tomentum on the underside of the leaves are partly or wholly resistant.

Control measures consist of spraying with two per cent light oil, effective against the larva, and nicotine, effective for the adults. Applications early in the fall before frosts are recommended, although they may be made at almost any season. Spraying on cloudy days is suggested.

# Specimen Production of Junipers

*Nursery Operations to Grow Shapely Trees Described at the Ohio Short Course at Columbus by D. Barrett Cole, of Cole Nursery Co.*

No doubt the place to start in producing specimen junipers is with the cutting or graft. Good disease-free cutting wood, full of vitality, taken from thrifty plants, will no doubt produce specimen stock quicker and at less expense than weak, poor cutting wood. Furthermore, I have been of the opinion that evergreens sport to some extent and that one should always select his cutting wood carefully from vigorous plants and branches, and for color and other worth-while attributes.

In reference to grafts, it has been generally accepted that when good straight terminal wood is taken, the plant grows much straighter and develops into a specimen easily, whereas when other wood is taken, the plants require a great deal more staking, trimming, training and other care and they are slow growing and more difficult to develop into specimens, sometimes almost impossible.

In grafting, authorities agree that the understock should be of the closest allied species or variety. In other words, upright junipers should be grafted on strong, hardy upright types, such as virginiana. Dwarf spreading varieties probably should be grafted on understock of a strong, hardy spreading sort.

Our plan has always been to pot the cuttings or grafts and carry them in the pots until well established and until the proper season for setting out. These potted junipers are planted in 18-inch rows and sufficiently far apart in the row to allow each variety to grow two years without overcrowding. Giving junipers plenty of space right from the start is important in producing specimens, because when they become overcrowded, even for the short period of one growing season, the bottom branches and foliage will become weakened or killed and it then becomes difficult to strengthen that portion of the plant and practically impossible to produce new wood and foliage where it has died. After two growing seasons in these narrow rows we then transplant our junipers into permanent nursery locations, set-

ting them at various distances depending upon the space which is deemed required for each variety.

During the second growing season in the permanent nursery location upright varieties should be staked. This staking has to be continued from two to five years, the ornery-growing ones having to be staked the longer period. Once the plants become dense and full and seem to attain more or less their mature appearance, then staking usually is not required. One must be careful to restake frequently so that the material used for tying does not cut into the stem of the plant.

Trimming is always necessary in producing specimen junipers, and various authorities have a great many different ideas as to just the form and manner in which pruning should be done. Pruning should certainly be started early in the life of the plant, probably as early as the second summer. Frequently light pruning is greatly to be preferred to less often severe pruning. One must be particular not to cut too deeply at the ground line. As a rule, the lower branches should protrude farther than branches above them, thereby gaining the necessary light to thrive.

I believe that upright varieties should be trimmed so that the sides

of the plant form a straight line from the tip of the plant to the outside of the lowest branches.

The theory of pruning or cutting back strong side branches is simply to retard the rapid growth from the terminal bud, which is naturally the strongest bud on the branch. The strength is then thrown back into the side buds and the effect is greatly to thicken the plant. It is not necessary to cut off a great deal of wood if one trims each year in the early spring and again when growth is about half made. If trimming is started at 2 years old in the juvenile stage, the plant will quickly gain the permanent solid shape and condition that you are seeking, and each successive trimming brings the plant closer to the perfection you are desiring and makes the next successive trimming less severe and easier.

It is taken for granted that the soil used for producing specimen junipers will be powerful, well drained soil. The particular type of soil does not seem to be of great importance so long as it will ball properly.

The summer pruning should be done early enough to allow the plants to take on enough growth during the rest of the season to cover up the severe formal effect of the pruning, as well as the scars. When special tight formal effects are desired then more frequent pruning is necessary, even three or four times a season, but for the average trade and for the purpose of developing a good, dense, full, shapely plant we find two prunings per season sufficient, while if less formal plants are desired the spring pruning alone is plenty. Specimen production can be attained by procrastinating and making the one and only trimming along in the middle of the summer, but this causes a great waste of growth that is cut off and increase in size of plant is attained at a considerably slower rate.

With upright junipers I dislike to remove the main terminal leader, as it is usually difficult to develop another one. Plants on rare occasions will throw up long, awkward, stringy



D. Barrett Cole.

central leaders, which must be cut out. Cutting of the terminal leader is almost entirely eliminated by a combination of two things. One is proper pruning near the top of the plant, which means being careful not to cut the uppermost side branches close, thereby allowing considerable of the strength which would go to the leader to spread out into these side branches. The other thing which is especially important and which adds to the general density of the plant and eliminates a great deal of pruning in general, is proper and practical root pruning or transplanting.

With spreading varieties of junipers we find top pruning when plants are young and growing rapidly as necessary as with upright varieties. It should be started in the juvenile state of the second summer, by nipping out the terminal growth of the longer branches. This facilitates the plant's properly filling in at the center and rounds it out.

Proper transplanting and root pruning are most important. Although each transplanting greatly slows up growth in height of upright varieties, I do not believe it actually retards much the time element in the production of specimen junipers. From a nursery standpoint, where plants are to be sold and satisfaction given to the customer, a juniper is not a specimen by simply having the plant aboveground of the finest appearance and quality. The root system, or part below the ground, has also to be of the finest quality.

The nurseryman thinks of producing the fibrous, compact root system necessary for proper success and doing this at the least possible expense. We have seen nurseries laboriously and at great expense transplanting huge quantities of evergreens to accomplish this purpose. This is in most cases absolutely unnecessary and a tremendous waste of money. As long as the soil in which the plants are growing is in good condition to cause thrifty growth, or as long as the soil can be economically kept in such condition, then there is absolutely no necessity for transplanting evergreens unless the plants are too close together. Even then when sufficient stock can be brought to market to thin the block properly within the ensuing year or so, the plants can oftentimes be kept in proper condi-

tion by a little heavier top shearing than usual, thereby keeping them from overcrowding.

When a plant is potted that is one transplanting. At approximately 1 year of age the second transplanting is accomplished by placing the plants in narrow rows or in beds, as the custom may be. At approximately 3 years of age, when the plants are put into their more permanent nursery location, the third transplanting has been accomplished. After two more years, when the plant is 5 years old, the average upright juniper about two to three feet and the spreading juniper about eighteen to twenty-four inches in spread, a tree digger may be run under the plants to accomplish root pruning. This should be as small a digger as can satisfactorily be used without throwing the plants out of the ground or disturbing them to the extent that they are liable to take damage.

Usually a 15-inch diameter digger is the proper size to use. Not only will it cut the roots on two sides at an average distance of seven and one-half inches from the center of the plant, but the best result is the cutting of the taproots. The digger should be run shallow so as to cut the taproots as close to the surface as possible without injury to the plant. This depth can usually be held at about six to eight inches. Some make a practice of waiting three years after planting in the permanent field row before root pruning. My observation is that unless weather conditions continue rather perfect after the root pruning operation, more damage and loss is sustained because of the trees' having been left three years without root pruning.

The following year root pruning is done on the same plants, but the roots are cut on the row side with a heavy spade about six to eight inches away from the trunk, depending on the heft of the tree. When root pruning with a spade, one must be sure to cut one to two inches closer to the tree than in making a ball for shipment.

Two more years can then conveniently pass until root pruning is again needed. The size digger then required would be 18-inch diameter for the smaller-growing varieties and 21-inch diameter for the larger-growing varieties. The following year root pruning should again be done by spade. This process can be continued

indefinitely, using the digger after two years, then the following year using the spade on the opposite sides. Some nurserymen space their evergreens square so that the digger can be run both ways, thereby saving the hand operation.

We like to do this root pruning in the autumn as early as weather conditions will permit. If we are favored with early autumn rains and the ground becomes sufficiently soaked up, we take a chance in early September, and although sometimes dry weather follows, we have never had a substantial loss. This early root pruning allows the plants to become set and make roots by late autumn and puts them in good shape so that they can be dug with a satisfactory ball the following spring. It is usually rather difficult to dig a good, solid ball the same autumn unless the soil is exceptionally heavy.

A good plan, of course, when using a digger for root pruning is simply to root prune about one-half of the block one year and the other half the following year. Then the orders may be dug from the half which has not been root pruned.

It goes without saying that to produce specimen junipers proper and frequent spraying to combat various diseases and insects must be carried on.

Junipers, as a whole, are probably the most difficult class of evergreens to transplant successfully, and one should hardly consider he had produced a specimen juniper until he has dug the plant with a good, solid ball of sufficient size to contain the roots and has delivered the plant in the best of condition.

THIRTY historical trees of the state are depicted in a new publication of the New Jersey department of conservation and development of the division of forests and parks. It is entitled, "Noteworthy Trees of New Jersey."

THE name "frenching" is suggested for a type of partial chlorosis and necrosis affecting tung tree foliage described in bulletin 318 of the Florida agricultural experiment station, Gainesville, entitled "A Preliminary Report on Frenching of Tung Trees," by Walter Reuther and R. D. Dickey. Data are presented which indicate strongly that control can be effected by treatment with manganese sulphate.

# Heron's-bills for the Hardy Garden

*Out of Confusion of Species in Genus Erodium Years of Trial Disclosed Many Good Plants for Cultivation—By C. W. Wood*

The genus *erodium*, which is the heron's-bills of gardeners, is a fairly large one, counting among its kinds a number of rather worthless annuals and several from the warmer regions of the world which are not hardy in my garden in northern Michigan. Yet, after discarding all the weeds and the tender kinds, there are a host of good hardy garden plants left among the three score or more known species. The genus is closely related to *geranium*, differing only from the latter in a few minor details, such as having five anther-bearing stamens instead of ten in the latter.

It is said, by those who should know, that gardeners generally demand that their plants possess such admirable traits as ease of culture, long blooming habit, long life, showiness of flower or foliage or both, and, in addition to all these desired qualities, an amiable disposition, requiring little attention throughout the years. That seems, of course, to be a large order to expect any plant to fill, and if all our garden material had to meet such a list of requirements, our gardens would indeed be poorly clothed, for few of my acquaintance are able to show such a catalogue of virtues. And again, if gardeners looked to these matters with any degree of vigilance, every garden would be full of heron's-bills, but, as a matter of fact, few plantings know even a single one of these accommodating plants. One is forced to the conclusion, then, that the plants have not been made available to amateurs by our nurseries.

Until I contracted a rather serious case of *erodium*-collecting fever several years ago, I could not understand why American nurseries offered so few of them. All the literature said they were easily grown in any sunny, well drained spot, which is a statement that I have found to be true in almost every case. They need little in the way of nourishment or moisture, standing up under the most trying conditions, provided they are not overly wet during their dormant period. One of the authorities which I consulted during the early days of my *erodium* experiences said

that "divided plants are chiefly sold here (United States), but the species are easily propagated by seeds." And that set me to wondering why, if such were the case, more nurseries did not offer the plants. After growing some of the species a few years and trying the usual means of propagation, the matter was quite clear. In the first place, the thick rootstock of *erodium* does not permit easy division, as in the case of *geraniums*, and propagating by that method is both slow and uncertain. Seedage is usually even more uncertain. An experience with *E. Guicciardii* will illustrate

the latter point, though it could be multiplied many times with other species. Out of fifty or more seedlings grown during the summer of 1934 from seeds from three careful growers in Europe, not a single plant even approached the pale rose-colored flowers which the floras say it should have, and the foliage ran all the way from silvery filigree to plain green. Instead, most of the flowers were a dirty white, a color that *Guicciardii* should not possess. Equally disappointing results are likely to come from sowing seeds of any species, intermarrying apparently being the rule rather than the exception, and uncontaminated seeds are not to be expected unless the species are quite widely separated. Fortunately, however, the plants are easily propagated by means of cuttings, preferably taken in early spring, according to my experience, by pulling tufts of the crown apart with a portion of the rootstock attached to each. These root quite readily in a cutting bench and would no doubt do the same in a protected frame outdoors. And according to my experience, it affords the best means of increase for the commercial grower after one has secured plants of special value.

My acquaintance with the genus, although it covers more than twenty years, does not justify my saying that this is such and such a species and that that is something else as definite. The whole matter needs careful study by an expert botanist. In the light of available literature on the subject and my own observation

of a large number of plants of both seedlings and cutting-grown material of plants which were said to be truly named, I shall try to point out a few of the more readily available kinds, indicating their garden value as seen through my own eyes. Some of the species may not be available in plants in this country at present, and in that case, it will be necessary to start with seeds, perhaps of foreign origin, trusting to the gods to bring you at least one plant that is somewhere near what it should be or, in the absence of that, one of equal beauty.

The kinds with finely divided leaves, which may be green, merely gray or, better yet, of the finest silver, are usually the most desirable. Of these *E. cheilanthalifolium*, or *E. trichomanefolium* as some would have it, is perhaps the best, with its tuft of downy, ferny leaves and unbranched stems, six to ten inches high, bearing rosy-hued flowers. It has been one of the most floriferous kinds that I have grown, but its flowering season is rather short for a heron's-bill, especially if it is compared with such long-distance champions as *E. macradenum* and *E. chrysanthum*. In this group other kinds of merit are *E. guttatum*, having green, ferny leaves and large white flowers blotched with purple on 6-inch stems for six weeks or longer in late spring and early summer, and *E. macradenum*, having finely cut green foliage, which is quite aromatic, and rosy violet flowers blotched with purplish black, on 6-inch to 10-inch stems from June until frost.

There is much confusion in the naming of a group of nearly related species which falls in or comes close to the section that was discussed in the next preceding paragraph. Bailey makes some of the names synonyms, as did Farrer in his account of the genus, while some contemporary authors make them varieties of *E. absinthoides* and others give them specific rank. It is not for me, a mere gardener, to pass judgment on the controversy, but it remains a fact that they are all excellent garden

ornaments, generally with quite downy or silvery leaves and, I believe, invariably with branched flower stems. So far as I have been able to determine, there are no distinguishing characters in plants representing *E. absinthoides* and *E. Sibthorpiatum*, both having finely divided silvery gray leaves and rosy lilac flowers on 4-inch to 6-inch stems for five months following the start in May. Belonging close here, no doubt, is the plant known in European trade as *E. amanum*, a species with gray ferny leaves, though not so finely cut as the immediately preceding, and quite large white flowers. It is spoken of in some European lists as being quite robust, but has seldom exceeded a 6-inch stature in my garden. *E. leucanthum* is quite similar to the one just mentioned, except that the leaves are more finely divided and the flowers are smaller. These oriental species are even more intolerant of a wet soil than those named in the last paragraph. Consequently, they must be given a perfectly drained spot, one containing an abundance of limestone chips being preferred. That and a hot sunny spot should make them permanently perennial in practically all sections of the country from the hottest to the coldest.

Close to *E. absinthoides*, also, is the Spanish version, which is known in gardens as *E. supracanum* and differs only from the oriental plant in being more dwarf (rarely, if ever, over three inches tall) and having more finely divided leaves. *E. supradenum* is spoken of as being a bright ornament in its pale pink flowers with blotches of near purple and its green, ferny leaves powdered with silver, but of that I cannot say because nothing that I have ever grown from seeds marked *E. supradenum* has

even suggested such a description. It is said to be a hybrid between *E. supracanum* and *E. macradenum*, and that may account for the wide variation in its children.

Also belonging to the group of species with branched flower stems is my favorite of all the heron's-bills, *E. chrysanthum*. Like most of its kind, it varies much when grown from seeds, running from plain green to the loveliest of silver foliage, but always built on a delicate ferny pattern, and the flower color ranging from the palest of creams to soft primrose. I have become so intrigued by this species and the possibilities in improvements of flower color that I have either moved all other erodiums far away from their sanctuary or disposed of them entirely, hoping to keep their progeny uncontaminated. Imagine my chagrin when, after two or three years of no seed harvest, I found out that the species are dioecious and my selected plants were all males!

The foregoing is little more than a start on an adventure in heron's-bills, but it represents the best of the hardy species that have been in my garden. It leaves out, to be sure, *E. hymenoides*, *E. Manescavi*, *E. pelargoniflorum* and others of that class, but they generally make too much hay in proportion to flower production, as one visitor expressed it, to be counted among the choice kinds. Then, too, there are missing those two little island dwellers from the Mediterranean, *E. chamaedryoides* and *E. corsicum*, and their beautiful child, *E. chamaedryoides roseum*, or, as some have it, *E. hybridum roseum*. None of these is hardy in northern Michigan, however, and when there are so many other good kinds that can stand our cold, one does not long go to the bother of carrying these

tender ones to a frame for their winter's sleep. Where it is hardy, though, the last-named, because of its rosy flowers with darker veins all summer long over inch-high tufts of scalloped green leaves, is one of the best of tiny plants.

#### MODERN BUILDING.

The Evergreen Nursery Co., the oldest-established business in Door county, Wisconsin, now houses its office in a modern building designed by Hamilton Beatty, of Planning Associates, Madison, Wis. Trained by the famous Frank Lloyd Wright, the firm specializes in modern design and has achieved a building for the Sturgeon Bay firm which combines efficiency in arrangement, lighting and heating with economy of construction. Besides the business office, drafting room and reception room, the building contains a soil-testing laboratory. Founded in 1864 and conducted continuously by the same family, the company will celebrate its diamond anniversary in 1939.

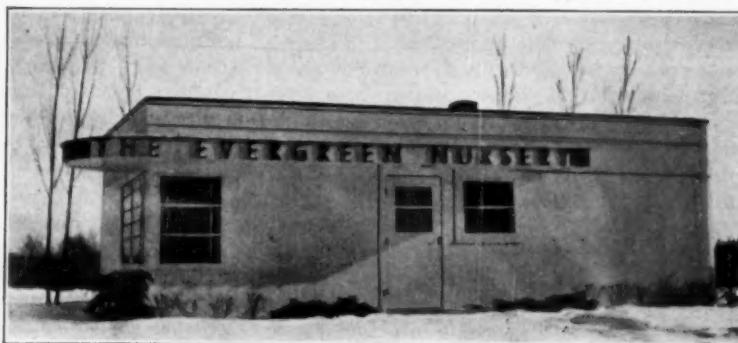
#### FIGHT WHITE-PINE RUST.

Eradication of white-pine blister rust is the aim of a state-wide undertaking recently inaugurated by Connecticut authorities with the assistance of the Works Progress Administration. Known as the white-pine blister rust control project, the undertaking is giving employment to a force of thirty especially trained men.

These men are trained to type-map not only the pine, but also the control area of 900 feet surrounding it. Once the maps are prepared, it is necessary to paint the bounds showing the outer limit of the control area. This is done by placing a thin strip of paint on the trees 900 feet away from the infected pines. Crews following up in the summer thus are shown where to stop pulling up the currant and gooseberry bushes.

The W. P. A. crews have type-mapped a total of 54,748 acres of land in and around white pine stands in Connecticut and of that number, 30,152 acres have been cleared of currant and gooseberry plants.

The value of the timber involved in the blister control project in Connecticut is estimated at \$11,000,000, based upon the fact that the average



New Office Building of Evergreen Nursery Co., Sturgeon Bay, Wis.

60-year-old stand of white pine will yield about 25,000 board feet per acre. At \$6 per thousand, the value of the stand per acre would be \$150. The average annual cost of protection for the white pines is said to run from 35 to 45 cents per acre.

#### PRUNING GRAPES.

Properly to prune grapevines, the pruner must understand how the grape bears its crop. The fruit is borne near the base of the shoots of the current season, and the shoots are borne on the wood of the previous year's growth. Assuming that a thrifty Concord grapevine should yield fifteen pounds of grapes, provision must be made for a sufficient number of bunches of grapes to give the desired yield. As each shoot bears two or three bunches which will weigh from one-quarter to one-half pound, it will be necessary to leave fifteen to thirty shoots on the canes of the preceding year. Pruning consists of selecting the canes that supply the required number of shoots and removing the remaining canes.

Grapes are also pruned to make well proportioned plants with the

time after the leaves drop in the fall until the buds swell in the spring, provided the wood is not actually frozen at the time. However, pruning should be delayed until after a heavy freeze in the fall so that immature wood will be killed and withered and can thus be easily identified and removed. The four methods that are commonly used are the Chautauqua, the Keuka high renewal, the single-stem 4-cane Kniffen and the umbrella Kniffen systems.

#### MICHIGAN OFFICERS.

##### Arthur L. Watson.

Elected president of the Michigan Association of Nurserymen for another year, Arthur L. Watson is the owner and manager of the nurseries bearing his name at Grand Rapids. He was born on a Michigan farm in 1891, and after a high school and business college education, he bought five acres of land and began growing everbearing strawberries in 1918. From that start he has built up the largest nursery in western Michigan, consisting of thirty-six acres of ornamental and lining-out stock, of which fifteen acres are under irrigation. Conducting both a wholesale and retail business, he does a large amount of landscape planting in Grand Rapids and surrounding territory. He makes a specialty of the propagation of evergreens under glass, of which he has 10,000 square feet, and also specializes in field-grown perennials under irrigation. Always working to produce something new, he originated the Rose Cushion dianthus, which has obtained wide favor. He is an active member of the Grand Rapids Lions' Club and is well known in the trade through his constant attendance at the conventions of the A. A. N.

##### Harold E. Hunziker.

Beginning a second term as secretary and treasurer of the Michigan Association of Nurserymen, Harold E. Hunziker, 29 years old, was born at Kent City, Mich., of pioneer nursery stock. His grandfather, Alexander Hamilton, was for forty years head of A. Hamilton & Sons Nursery, Bangor, Mich., and one of the founders of the Michigan Horticultural Society. The secretary's father, M. J. Hunziker, continued a branch of the Hamilton nursery at Kent City

before moving to Niles twenty-three years ago. Since his death in 1935, the business has been continued by Harold and his brother Alex. H. Hunziker, operating as a landscape service nursery, specializing in the development of small properties and estates in the area surrounding Niles.

Harold Hunziker graduated with a Ph. B. degree from the University



Arthur L. Watson.

of Chicago by spending the summer and winter quarters there while serving as secretary to the nursery organization during the fall and spring quarters. He has since given the study of a well trained mind to landscape architecture in its various phases, trade ethics and nursery labor costs. At the university he became interested in the idea of showing landscape plans in clay models.

In his firm he has installed the policy of making landscape designing the most important factor of the business, seeking to formulate a medium ground between the professional landscape architect and the average nursery operator as an ideal for landscape service organization.

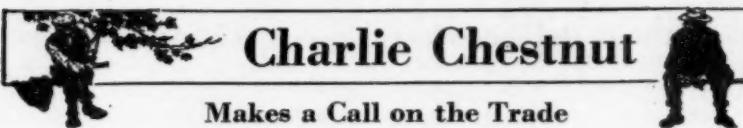
NINE large mimeographed pages carry descriptions and comments on northern plant novelties for 1938 from Dr. N. E. Hanson, of the department of horticulture of South Dakota State College, Brookings. After forty-two years of service as head of the department of horticulture, June 30, 1937, he became an emeritus professor of horticulture in charge of research experiments in breeding hardy fruits and roses.



Harold E. Hunziker.

parts so disposed that the vines are to the highest degree manageable in the vineyard. This is training. Grape growers usually speak of both operations as pruning, but it is well to keep in mind that the two have different objectives.

Winter pruning is advocated, although pruning can be done without danger of injuring the vines at any



Charlie, my boss says, we aint seen old Frank for 3 or 4 years and on acct of we aint busy today leave us drive up and call on the old devil. So we backed out the old Ford truck and started to Otter Creek where Frank has got a nursery back in the woods. When we swung around the bend in the road and drove up the lane to the house, we thought nobody was home because there wasnt no tracks around the front and there was snow on the front porch. We did not see no sines of life. I'll bet the old devil has gone down to Centralia to spend the winter with his wifes folks. But just then I heard Franks dog bark, so I went up to the back door and banged as hard as I could. Then I heard Frank yell who was at the door making all the noise. I says its Charlie and Emil so he says to come on in. He had been laying on the couch over behind the stove and he says I must have dozed off a little. Frank looked just the same as always. He had his rubber boots on and his fur cap with his ears half sticking out from under the ear flappers. When he got up he tipped over the tomato can that was on the floor beside the couch, but it was only half full so it was not so bad. Frank says I used to have a dam good cuspidor that I got at the Odd Fellows Hall but my wife threw it out.

Well Emil says I did not see you out to the convention. No, Frank says, I went in '29 but I aint been since. In fact, I aint been down town for three weeks and I will have to go down before long or else I will have to give myself a hair cut. And a shave too, I says to myself, but did not mention it to Frank. I says Frank where is your woman at? Oh, she is at her sisters, says Frank, taking care of Lizzie and I have been batching it since New Years. They wanted me to come down but I cant stand it to be around my brother-in-law as he is always trying to convert me. He dont use no tobacco and he wouldnt touch liquor even if he was bit by a rattle snake.

Well says Emil how is the nursery business? I'm going to quit it says

Frank. I'm tired of it. You cant get no prices for stuff and mine is all so big I cant hardly dig it. Then my boys dont take to it. My oldest boy went to work in the Chevvy garage and my other boy took a job trimmin trees on the W.P.A. Thats Ed that used to help me in the nursery. You know Ed, dont you Emil? Oh yes sure I know Ed, says Emil. He is figgerin on gettin married but his girl wont come out here in the country so it looks like Ed was gone for good. But he may turn up when the W.P.A. gives out maybe.

My woman done pretty good with the currants and the strawberries last summer. And that reminds me, said Frank, I have got some currant wine down cellar which ought to worked on about now. So down he goes for a jug. We all had 3 or 4 water glasses full and Frank says, if you boys want to try my cooking lets have a batch of pancakes. I have some good home made sausage which my woman made when I butchered last October. We had to wash 2 plates as the rest was dirty but we had a good meal. Frank had a good turn on them pancakes all right and we must have worked up about 75 between the 3 of us. We started to work on the wine again and Frank was gettin in a more talking mood than when we first come. He says, Emil I got a good notion to put in a lot of Jupiters this spring if I could sell a block of white pines I have got in the nursery. There is about 300 and they are dandies. Run about 10 or 12 feet he says.

I got em from you in 1927. Remember that deal, he says. He laughed so hard that his peg tooth came off and he sure looked funny with that wire hanging down there that way where the tooth come off. I've been having a lot of trouble with that tooth he says on acct of that ceiling wax I put on it wont hold nothin. He fooled around with that tooth for a few minutes trying to make it stick on and finally he got up and layed the tooth on the shelf in back of the alarm clock.

We talked a long time mostly about the good old days when Frank used to run the milk route before he decided to start the nursery. But every once in a while he kept bringin up about them White Pine and he says, Emil with all the business you do you could move them White Pine like nothin.

We killed the first gallon of wine and was well on the way through the second jug when Emil says we would have to be on our way on account of it was the middle of the afternoon already. Frank says I want you to see those White Pine first so we went out to the nursery and we seen the White Pine.

On the way home I says to Emil how in hell did you come to buy them White Pine. But he didnt say nothin. I looked over at Emil and his hat was pulled down over his face and he was asleep.

We didnt say nothin about the White Pine for several days, then Emil says he have got to get out of that deal with Frank, but he didnt have no ideas of how to do it. One day a nursery inspector come to our place like they do once in a while and

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he went over everything and we was sittin talking in the office. It was then that I got the big idea.

I says there is a certain nurseryman which I wont mention his name but he is up in the neighborhood of Otter Creek and he has got a block of White Pine that looks to me like they had the 7 yr. itch or somethin worse. Not long after Frank stopped in at our place. Well, he says, the White Pine deal is off. Emil looked surprised but I give him a wink. The inspector made me burn em all up on account of they had some white stuff all over them in spots. I hate to disappoint you, says Frank, but you know how the inspectors is. That is a shame, says Emil, as I have practically got em turned at a little profit. Well, says Frank, I dont know how I could have dug em anyway on acct of my oldest boy is working in a garage and Ed is on W.P.A. and they was pretty big to dig all alone. We talked about the sales tax which Frank said he was not in favor of and he was not going to pay anything.

Just as he was driving away he yelled at Emil. Say Emil, he says, I have got a block of Norway Spruce, dandies, about 15 footers, all dandies. They is about 200 in the lot. Could you take them off my hands at a good price? Hell no, says Emil.

#### STAFF MEETINGS.

Among nursery firms which have found occasional meetings of the employees and staff quite profitable is the Florida Nursery & Landscape Co., Leesburg, Fla., of which G. W. Pringle is president. Such meetings are held there once a week. Evidence of the good derived may be noted in the following paragraph from a paper presented at a recent staff meeting by the head bookkeeper, who evidently finds time to do many other things than her routine work and who sincerely enjoys association with plants:

Plants to me are almost human—and when recommending plants to customers I like to know what conditions they are to face, for if anything exasperates me it is to have a customer take away some perfectly lovely plant and then complain that it died when it was taken out of the greenhouse, when half the time it passed out because she either tried to accustom it to the Sahara desert or teach it to swim. Most people alternately overwater and underwater their pot plants; so if some customer complains of not having success with pot plants indoors though they tend them carefully, then I make a brave effort to turn their choice toward one of the nephthytis, aglaonema, pothos or some practically foolproof plant.

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Strong seedlings of a very good strain,  
3 to 6 ins. 6 to 9 ins. 8 to 12 ins.

*Rosa Rugosa*, seedlings, 6 to 12 ins.  
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*Weigela Eva Rathke*, 1-year grafts.  
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**LINERS:**  
Including *Ligustrum*, *Scotch Broom*,  
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**SPECIMENS:**  
*Ilex crenata*, *Pin Oak*, *Sugar Maple*,  
*Peach*, *Apple*, *Plum*.

Send for our surplus list.

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That's what several subscribers have said about the 6-page table on Seed Stratification Practices in The American Nurseryman.

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## A. A. N. News

### FARM FORESTRY HEARING.

Seeking to eliminate the appropriation for the coöperative farm forestry act, Vice-president Chet G. Marshall, Secretary Richard P. White and Clarence O. Siebenthaler, chairman of the Washington contact committee of the American Association of Nurserymen, appeared before the subcommittee on agriculture of the committee on appropriations at Washington, D. C., February 22, and presented a brief in opposition, supported by facts and figures. They met strenuous cross-examination, but vigorously presented the nurseryman's view of government competition.

Figures had been compiled from the reports of various federal agencies showing that the forest service in thirty-four nurseries produced 255,578,000 trees, the soil conservation service in forty-three nurseries produced 198,505,035 and forty-one nurseries operating under the Clark-McNary law produced 35,647,809, while the prairie states forestry project, operating on relief funds, produced 20,406,987, yielding a grand total of 510,137,831 trees grown and distributed by federal nurseries. The prairie states forestry project wants to expand 900 per cent to an annual production of 180,000,000 trees to give away to farmers. The soil conservation service alone collected and purchased in 1937 a total of 1,556,563 pounds of tree and shrub seeds, or 778 tons. Hence the opposition of nurserymen to further expansion of the "free tree racket."

### CONFER ON QUARANTINE 37

Albert F. Meehan, chairman of the quarantine committee, and Secretary R. P. White conferred with Lee A. Strong, chief of the bureau of entomology and plant quarantine, February 9, offering the coöperation of the A. A. N. in solving problems arising under the regulations of quarantine 37. A statement is being prepared by Mr. Strong pointing out what he considers to be inconsistent regulations promulgated in the past, with his recommendations as to how they can legally be brought into line with the purposes of the act. This statement will be circulated among

nurserymen in ample time for study and for group conferences with Mr. Strong before any action is taken and before the required public hearing is held. How soon the statement will be ready is not indicated, and no early action is expected.

### NEW CHAPTERS.

Charter No. 4 was issued February 10 to the Kentucky chapter by President E. L. Baker. Charter applications have been received from the New England, New Jersey, Pennsylvania and Allied association chapters, and these will probably be granted soon.

In addition to the A. A. N. chapters formed at state association meetings already reported in these columns, fourteen Tennessee members organized their state chapter, at Cleveland, February 10. Lee McClain was elected president; T. N. Nicholson, vice-president, and R. H. Jones, secretary-treasurer. S. R. Howell was elected delegate, and W. A. Easterly and J. R. Boyd were named alternates, as it was felt sufficient members might be gained to have two or even three representatives on the

A. A. N. board of governors. In attendance at the meeting were President E. L. Baker and Owen G. Wood, of the executive committee.

Region 1 has already held a preliminary meeting for the nomination of the executive committee member from that district.

### JOIN U. S. CHAMBER.

The A. A. N. officially became a member of the United States Chamber of Commerce as of March 1. On the basis of the present membership, the association is entitled to three delegates, one of which will act as national councilor. President Baker is expected to make appointments soon, as the annual meeting of the chamber is set for May 2 to 5.

### STUDY PLANTING POLICY.

A group of men all connected with federal agencies having to do with the construction, planting and maintenance of public lands, buildings, roads, parks, forest preserves, etc., including representatives of forestry, roads, park service, federal housing authority, P. W. A., bureau of plant industry, etc., is studying the whole problem of federal policy. Subcommittees have been set up on

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(Upright Japanese Yew)

Compact heavy specimens, 5 ft. to 8 ft. high, growing 6 feet apart in rows.

Roots very fibrous and dug with perfect balls.

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Carloads or truckloads only.

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1-year seedlings, 3 to 6 ins. and 9 to 12 ins.

**ROSA MULTIFLORA**

**JAPONICA** **SEEDLINGS**

3 to 4 mm., 4 to 6 mm., 6 to 8 mm.

Send for our complete price list.

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### HARDY AZALEAS

Kampteri, Peacockensis, Schlippenbachii, Mucronata, Sanguinea, Enkianthus Campanulatus, Juniperus chinensis, Taxodium distichum, Serrata, Norway Spruce, Austrian Lime, Pinus strobus, Specimen Yew, 12 to 15-foot spread.

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design, planting specifications, estimating and glossary. Wilbur Simonson, landscape architect of the bureau of roads, is chairman of the subcommittee on planting, and he has indicated that when the opinions and views of his committee, as well as others above mentioned, have been formulated, the A. A. N. will be asked to coöperate in such matters as pertain to uniform specifications and uniformity in terms on government bids. The whole movement is the result of the present lack of any uniform rules on government bids and is an attempt to secure them.

#### CURRENT LEGISLATION.

The Borah-O'Mahoney federal licensing bill, described on page 2 of the February 15 issue, has been revised, in response to the opposition of groups of small business men. The definition of a corporation has been changed so as to exclude unincorporated enterprises. Another exemption is that of corporations having less than \$100,000 in gross assets. The power of revocation of licenses is not given to the federal trade commission, but to the courts.

The new wages and hours bill which has been submitted to committee carries no exemptions. While no legislation on this subject is expected to be passed at the current session, the possibility is being given attention.

Under the recently passed amendment to the federal housing act, two billion dollars is authorized for mortgage insurance to stimulate building construction. The F. H. A. is decidedly landscape-minded and has an established policy to insure loans which include items such as the cost of preparing the site, grading, terracing and landscaping. Provisions are made for multifamily and group housing projects, to promote construction of large scale projects up to five million dollars and to encourage building of real estate developments of single family houses covered by mortgages from \$16,000 to \$200,000. Developers may now obtain blanket mortgage financing including advance of funds for construction, and nurserymen should ascertain that the necessary landscaping items are included in the loan application of such projects.

The United States housing author-

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**SHADE AND ORNAMENTAL TREES**, clean nursery-grown, in both lining-out and finished stock.

**CONIFER EVERGREENS**, assorted, consisting of *Biotas*, *Thunia*, *Junipers*, *Spruces*, *Hemlocks*, *Boxwood*, *Erythrina*, *American Holly*, *Kalmia Latifolia*, *Magnolia Grandiflora*, *Rhododendrons* and *Nandina*.

**VINES and CREEPERS**, very good assortment in lining-out and finished stock.

**APPLE**, 1-year whips, in the following list, good clean trees, good grade and true to name.

**BARBERRY THUNBERGII** seedlings and **PRIVETS** in the following grades at these special prices. 5 per cent discount and free packing for cash with order.

#### ONE-YEAR APPLE. Whips

	2 to 3 ft., 5c	3 to 4 ft., 8c	4 to 5 ft., 10c	5 to 6 ft., 12c
<i>Delicious</i> , Double Red	625	2200	2220	125
<i>Delicious</i> , Red	1200	3675	180	...
<i>Delicious</i> , Yellow	400	200	75	...
<i>Hackworth</i>	100	200	50	...
<i>Janet</i>	200	500	...	...
<i>Jonathan</i>	200	400	135	...
<i>Kinnard Choice</i>	200	75	140	...
<i>Maiden Blush</i>	100	275	100	...
<i>Mammoth Black Twig</i>	300	100	...	...
<i>Red Astrachan</i>	350	340	...	...
<i>Red June</i>	100	125	...	...
<i>Smoky Mountain</i>	1125	2800	840	50
<i>Stayman Winesap</i>	300	180	300	60
<i>Summer Queen</i>	300	380	520	45
<i>Transparent</i>	20	110	550	...
<i>Winesap</i> , Red	175	400	365	25
<i>Winter Banana</i>	175	400	145	...
<i>York Imperial</i>	175	400	145	...

#### BERBERIS THUNBERGII, Japanese Barberry

	Per 100	Per 1000	Per 10,000
3 to 6-in. seedlings	\$0.70	\$ 6.00	\$40.00
6 to 9-in. seedlings	.80	7.00	60.00
9 to 12-in. seedlings	1.25	10.00	80.00
12 to 15-in. seedlings	2.00	18.00	...

#### LIGUSTRUM AMURENSE, Amoor Privet North

	\$1.00	\$ 8.00	\$ 70.00
Lining-out grade, 6 to 15 ins.	1.25	10.00	90.00
6 to 12 ins., C., 2 branches and up	2.00	18.00	170.00
12 to 18 ins., C., 2 branches	3.00	25.00	240.00
18 to 24 ins., 2 branches	3.00	25.00	240.00
18 to 24 ins., 3 branches and up	3.50	30.00	290.00
2 to 3 ft., 3 branches and up	5.50	45.00	...

#### LIGUSTRUM IBOLIUM, Ibolium Privet

	\$1.50	\$10.00	...
6 to 12 ins., C., 2 branches and up	3.00	25.00	...
12 to 18 ins., 3 branches and up	3.50	30.00	...
18 to 24 ins., 3 branches and up	5.50	45.00	...

#### LIGUSTRUM OBTUSIFOLIUM, Ibotia Privet

	\$1.25	\$10.00	...
6 to 12-in. seedlings	1.50	12.00	...
12 to 18-in. seedlings	2.00	15.00	...
18 to 24-in. seedlings	2.00	10.00	...
6 to 12 ins., C., 2 branches and up	1.25	10.00	...
12 to 18 ins., C., 3 branches and up	3.00	25.00	...
18 to 24 ins., C., 3 branches and up	3.50	30.00	...

#### LIGUSTRUM OVALIFOLIUM, California Privet

	\$0.50	\$ 4.00	\$ 35.00
Lining-out grade, 6 to 15 ins.	.60	5.00	45.00
6 to 12 ins., 1-yr., 2 branches and up	2.00	15.00	125.00
18 to 24 ins., 2-yr., 3 branches and up	2.50	20.00	175.00
2 to 3 ft., 2-yr., 4 branches and up	3.00	25.00	...
3 to 4 ft., 2-yr., 4 branches and up	4.00	35.00	...
4 to 5 ft., 2-yr., 5 branches and up	4.00	35.00	...

#### LIGUSTRUM SINENSE, South Privet

	\$0.60	\$ 5.00	\$40.00
12 to 18-in. seedlings	.80	7.00	60.00
18 to 24-in. seedlings	1.25	10.00	80.00
2 to 3-ft. seedlings	1.25	10.00	80.00
12 to 18-in. branched seedlings	1.25	10.00	80.00
18 to 24-in. branched seedlings	1.50	12.00	...
2 to 3-ft. branched seedlings	2.00	15.00	...
12 to 18 ins., transplanted	1.50	12.00	...
18 to 24 ins., transplanted	2.00	17.50	...
2 to 3 ft., transplanted	2.50	20.00	...

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President

ity, which carries out the government slum clearance and subsidy program aimed primarily to promote construction of housing facilities for small wage-earners, earmarked over nine million dollars more February 9, raising the number of cities to fifty in nineteen states participating in this low-rent housing program. Undoubtedly considerable plant material will be used in these projects. A. A. N.

members can obtain from the Washington office a list of those cities for which funds have been earmarked.

THE native persimmon is recommended as an erosion control plant and as a tree crop by S. B. Detwiler, head of the hill culture section of the soil conservation service, in an article in the monthly organ of the soil conservation service for February.

# Ohio Nursery School

*Practical Pointers Gleaned from Talks  
During Two Days' Sessions at Cincinnati*

The southwestern Ohio nursery school, sponsored by the Cincinnati Landscape Association, the department of horticulture of Ohio State University and the agricultural extension service, had a registered attendance of forty-five, an increase over previous years. A noticeable improvement in the course was the fact that only two talks were given each half-day, which allowed ample time for discussion.

#### Experimental Work Reviewed.

The Thursday morning session opened with a review of the experimental work with woody ornamentals at Ohio State University during 1937, by Prof. L. C. Chadwick. Continued tests over a 4-year period have produced few new leads in methods of overcoming chlorosis of pin oaks. Soil treatments of one-quarter pound of aluminum sulphate, one-quarter pound of sulphur and one-half pound of ferrous sulphate per each inch in diameter of the tree have given the most consistent results. Good fertility and ample moisture should be maintained.

The results of tests on root distribution of elms were reported in the American Nurseryman of February 1.

Tests on the effect of pH and minor elements on the production of outdoor roses have not been conducted over a long enough period to warrant definite statements. Five varieties were used and based on blooms per plant. The data recorded show the plots range as follows (best to poorest, all varieties): Zinc, pH 5.0, manganese, pH 7.0, magnesium, peat, pH 6.0, pH 8.0 and check. Figures range from 32.2 blooms per plant in the zinc plot to 24.4 in the check plot. These tests will be continued.

Storage practices with seed and effect of growth substances on root production of transplanted plants were also discussed.

#### Testing Soils.

Soil tests as a basis for fertilizer recommendations were discussed by Prof. Alex Laurie. He mentioned that the soil test kits could be used

by nurserymen and landscape gardeners to eliminate the guesswork from many fertilizer recommendations. A certain amount of prestige will be gained by firms operating on such a basis.

In testing soils, first of all a uniform sample should be obtained which contains no manure or recently applied fertilizer. Samples should be taken from different parts of the field or bench and mixed thoroughly. All containers, glassware, droppers and other equipment should be kept clean. The soil for the test sample should not be handled with the hands, and it should be medium moist when tested. Color charts should be kept from direct sunlight. Acidity tests are best made in spring and autumn rather than in midsummer. In testing for nitrate nitrogen, be sure the test solution has not become contaminated. Tests should not be made when the soil is cold or shortly after heavy rains. Follow carefully instructions given in testing for phosphorus, potassium and calcium. The soil test should not be

used alone as a basis for fertilizer recommendations. The type of soil is important, and the results of the test should be correlated with the age and vigor of the plant. Factors of soil drainage, aeration, pests and others should be given consideration.

#### Growth-promoting Substances.

The afternoon program opened with a discussion of synthetic growth substances by Prof. L. C. Chadwick. The purpose of this talk was to bring out some of the practical problems involved in the use of these substances and to present some evidence on the relationship between the growth substances and the plant hormones. The evidence at the present time would seem to show that the synthetic growth substances exert little influence directly on root formation. The way in which they act seems to be through their activation of the plant hormones. The content of hormones in plants and cuttings depends upon a number of factors, such as light, amino acids, carbohydrates and probably others. Recommended treatments for softwood, semimature and hardwood cuttings were given with the advice that variations will occur, and the propagator must use good judgment in handling each particular batch of cuttings. The responses ad-

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Honeysuckle <i>Fragrantissima</i> .....	3.00
Hydrangea <i>Snowball</i> , large fl. ....	3.00
Kolkwitzia, <i>Beauty Bush</i> ; fine.....	4.00
Philadelphia <i>Virginalis</i> , genuine.....	4.00
Philadelphia <i>Grandiflora</i> .....	2.50
Spiraea <i>Freebille</i> , dwarf pink.....	3.00
Welwitschia <i>Hendersonii</i> , pink.....	2.75
Welwitschia, Variegated leaf.....	3.50

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vocated by some writers after the use of growth substances were discussed and their importance in commercial nursery practice often questioned. Above all, the use of these materials will not overcome poor methods of handling cuttings. Good judgment on the part of the propagator is still necessary.

#### Tree Maintenance.

Tree maintenance was the topic discussed by Prof. Alex Laurie during the first afternoon. Considerable time was spent in reviewing a survey on tree-moving conducted by the department of horticulture last autumn. This survey will be published in full in the near future. Much attention was also given to pruning practices. Such things as time of pruning, reasons for pruning, nature of the cuts and the results to be expected were emphasized.

After the banquet the first evening, Myron D. Downs, director of the regional planning commission of Cincinnati, discussed in detail the development of the Duck Creek Parkway. This address was followed with a discussion of "The Swindle Racket," by Karl T. Finn, manager of the Better Business Bureau of Cincinnati. Mr. Finn outlined the policies followed by the Better Business Bureau in restricting the activities of various racketeers operating in Cincinnati.

#### Identification of Evonymus.

The Friday morning program session was opened with a talk by Prof. L. C. Chadwick on the characteristics and identification of evonymus. Special emphasis was given to the characters used in identifying the evergreen evonymus. Particular stress was given to the differences existing be-

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	$\frac{1}{2}$ -in.	$\frac{1}{4}$ -in.	$\frac{1}{3}$ -in.	1-in.
Black Ben Davis	12c	15c	18c	21c
Ben Davis (red)	258	386	507	622
Blood Red Delicious	587	4143	5070	1122
Early Red Bird	...	538	1840	322
Jonathan	...	3149	2420	328
Mammoth Black Twig	110	439	1149	1659

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tween *Evonymus radicans* *Carrierei* and *Evonymus patens*. These two are often confused and *Evonymus radicans* *Carrierei* is quite frequently sold for *Evonymus patens*. The former has thicker leaves which are rounder and more distinctly toothed. The leaves are rounded at the base and have a longer petiole. The leaves of *Evonymus patens* are wavy and taper at the base, leaving a short petiole. *Evonymus radicans* *Carrierei* flowers in June, while *Evonymus patens* does not flower until August or even September.

#### Pest Control.

In his discussion of pest control, Professor Laurie emphasized the importance of knowing definitely why the spraying was being done and the life cycle of the pest. Often there is a rather narrow margin of safety in

the use of spray materials. Sprayers developing a pressure of 250 to 400 pounds were advocated. Approximately one to one and one-half gallons of spray to the inch on trees up to twelve inches in diameter are necessary for satisfactory coverage. On trees over twelve inches in diameter, two gallons are required. A warning was given against the use of oil spray for hard maples and black walnut. Basic arsenate of lead was said to be safer than acid arsenate of lead. Karaya gum, 1 to 500, was suggested as an activator for nicotine sprays. Regarding the compatibility of spray materials, he mentioned that acid lead arsenate was safe with Bordeaux, sulphur and tobacco, but not with lime-sulphur, soaps or soap emulsions. Basic lead arsenate is safe with all those mentioned. Lime-sulphur is safe with basic lead arsenate, tobacco,

sulphur and Bordeaux. Bordeaux should not be used with cyanides or soap. Recommendations were given for control measures for some of the common pests. Cupro K, Coposil, Bordeaux 34 and Hydroxide were among some of the new spray materials suggested for trial.

#### Identification of Junipers.

Considerable enthusiasm was expressed concerning the discussion of characteristics and identification of some of the junipers by Prof. L. C. Chadwick. Emphasis was placed on the fact that the list of the 115 species and varieties of junipers listed by nurserymen could be greatly reduced and still include the really satisfactory types. The following list was recommended for Ohio conditions:

*Juniperus chinensis* Pfitzeriana.  
*Juniperus chinensis* Pfitzeriana compacta.  
*Juniperus chinensis* Sargentii.  
*Juniperus horizontalis* alpina.  
*Juniperus horizontalis* Douglasi.  
*Juniperus horizontalis* plumosa (Andorra).  
*Juniperus horizontalis* procumbens.  
*Juniperus Sabina* Von Ehren.  
*Juniperus scopulorum* Blue Moon.  
*Juniperus virginiana* Burkii.  
*Juniperus virginiana* Cannartii.  
*Juniperus virginiana* globosa.  
*Juniperus virginiana* Keteleri.  
*Juniperus virginiana* pyramidiformis.  
*Juniperus virginiana* Smithii.

As a secondary list the following varieties could be added:

*Juniperus chinensis* columnaris.  
*Juniperus chinensis* femina.  
*Juniperus chinensis* globosa.  
*Juniperus chinensis* mas.  
*Juniperus conferta*.  
*Juniperus communis* Ashfordii.  
*Juniperus horizontalis* (green).  
*Juniperus horizontalis* Bar Harbor.  
*Juniperus Sabina* fastigiat.  
*Juniperus Sabina* tamariscifolia.  
*Juniperus virginiana* elegantissima.  
*Juniperus virginiana* pendula.  
*Juniperus virginiana* tripartita.

#### Shade Tree Fertilization.

The afternoon session was concluded with a discussion of shade tree fertilization by Prof. Alex Laurie. Practices involved and the advantages of such methods of fertilizing as trenching, post hole, punch bar, aero-fertil and applied with water were discussed. Referring to the punch bar method of application, he suggested the use of ten holes per each inch in diameter of the tree. The holes should be made about eighteen inches deep. Fertilizers high in nitrogen, such as 10-6-4, 12-8-6 or 8-5-3, were recommended. With a 10-6-4 fertilizer an application of approximately five pounds per each inch in trunk diam-

eter was suggested for trees over five inches. Trees smaller than five inches should have the application reduced about one-half. Proper aeration and ample moisture were stressed as being fully as important as the application of fertilizers.

The evening session was opened with a discussion of landscape construction problems by Prof. John Anderegy, of the University of Cincinnati. This was followed by slides loaned by the United States Department of Agriculture on soil conservation practices.

#### TRUE MERCHANDISING.

Every one of us has often listened with much interest to the "Pep Talks" of high-powered salesmen who in a forceful manner tell us how to get the customer's name on the dotted line. We have, too, been lectured on the power of advertising by experts in this line of selling and merchandising. They have dwelt on the importance of breaking down the other fellow's resistance and making him believe that his very happiness depends upon securing the article, commodity or what not that you have to sell him. If he has one radio in the living room, he should get one for the bedroom also, so that he may in bed, when too much company comes, still hear his favorite program. Of course, nothing is said about disturbing his neighbor who may have retired to be rid of the noise.

In the last analysis, it means boost-

ing the sales quota fifty to 100 per cent if you can, even if you get your local barber to put in a line of lawn mowers and hedge shears, or the delicatessen store to have a department for automobile accessories and axle grease, or your grocer to sell Norway spruce and arbor-vita on the sidewalk — go to it, the end justifies the means.

Well, a few years of sea level times have somewhat modified these high-powered doctrines, and our cry is now that we would be content if we could get back to normal times—just what that word "normal" really means is a stickler. Perhaps we are now at normal, but haven't adjusted ourselves to the level of things.

I have been looking over with much interest the book "Portraits of Dogwoods" by our mutual friend, Adolf Muller, and I am more and more convinced that this kind of selling talk, this type of advertising, does much more for real merchandising than so much of the blah-blah handed out by zealots who flit and flirt over the line of fabrication. Mr. Muller, out of the sincerity and enthusiasm of his heart for his subject, has brought thousands of people to see more and more the beauty of our common native dogwood, has dignified it by historical interest and in so doing has undoubtedly stirred a real consciousness of its beauty and usefulness.

Already great quantities of dogwood trees have been planted in the several counties adjacent to Philadelphia and Valley Forge. We also hear of a splendid project sponsored by a

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Ash, Am. White, 10 to 2-in. cal.	50.00	480.00
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Elm, American, 10 to 12 ft.	7.50	65.00
Elm, American, 1 1/2 to 2-in. cal.	9.00	80.00
Elm, American, 2 to 2 1/2-in. cal.	12.50	115.00
Flowering Crab, 3 to 4 ft.	4.00	35.00
(Eleot. Floribunda, Hopa, Sargentii)		
Japanese Cherry, 3 to 4 ft.	7.50	65.00
Japanese Cherry, 4 to 5 ft.	8.50	75.00
Jap. Weeping Cherry, 1-yr.		
5 to 6 ft.	12.50	125.00
Maple, Norway, 3 to 10 ft.	9.00	85.00
Maple, Norway, 10 to 12 ft.	11.00	100.00
Maple, Norway, 2 to 2 1/2-in. cal.	20.00	185.00
Oak, Pin, 3 to 2 1/2-in. cal.	25.00	225.00
Oak, Pin, 2 1/2 to 3-in. cal.	40.00	350.00
Pine, Oriental, 2 1/2 to 3-in. cal.	20.00	180.00
Poplar, Lombardy, 6 to 8 ft.	2.50	20.00
Poplar, Lombardy, 8 to 10 ft.	3.00	25.00
Poplar, Lombardy, 10 to 12 ft.	4.00	35.00

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group of tree lovers in Bucks county, where the authentic route traversed by the Revolutionary forces under George Washington, from Washington Crossing to Valley Forge, will be lined with dogwood trees. This stretch of approximately thirty miles will accommodate a vast number of trees, and in the filling of orders which must necessarily follow, nurserymen as a body, and not Adolf Muller alone, will reap the rewards. As a matter of fact, the greatest thrill and reward Mr. Muller will get out of it is the fact that he has been instrumental in arousing a glorious national interest in the dogwood.

It seems to me, therefore, that to get as many men and women as possible to be really conscious of the beauty of trees, of shrubs, of plants is, after all, true merchandising.

Edwin Matthews.

## PEAR MIDGE CONTROL.

Practical control of the pear midge is chiefly a matter of timing the spray application with blossom bud development so as to destroy the adult midges before egg laying gets under way.

The critical period for midge control is the time when the most advanced blossom buds in the warmest part of the orchard begin to show a trace of the pink of the petals between the separating sepals. Generally, the adult midges are most abundant at this time and a single spray application will give effective control, but when midge activity is prolonged and blossom bud development is delayed, two applications are necessary for best results.

Spray mixtures containing nicotine or summer oil emulsions without nicotine are most practical, according to experiments at the New York state experiment station. Nicotine sulphate at the rate of three-quarters to one pint in 100 gallons of spray mixture is used with lime-sulphur, Bordeaux, soap or summer oil. When summer oil emulsion is used without nicotine, it is generally applied at the rate of one and seven-tenths to two gallons of actual oil in 100 gallons of spray mixture.

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- J. chinensis Sargentii glauca*
- J. squamata*
- J. squamata argentea*
- J. squamata Meyeri*
- J. japonica aureo-variegata*
- J. virginiana Burkii*
- J. virginiana Canariensis*
- J. virginiana elegansissima*
- J. virginiana globosa*
- J. virginiana Keteleeri*
- J. virginiana Kosteri*
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# Landscape Groups Meet

## COLUMBUS LANDSCAPERS MEET.

The February meeting of the Columbus Landscape Association was held at the home of Harry O'Brien, Columbus, O., with a large turnout. The meeting was called to order by President Harold C. Esper, of Ohio State University, and the roll call and minutes were read by Secretary W. Stanley Speed, along with a report of recommendations proposed at the recent meeting of the executive committee.

Chairman Starr Windsor of the committee appointed to determine the possibilities of publishing a bulletin of information concerning the value of proper landscaping of the home stated that his committee had contacted some advertising firms concerning such a booklet and was informed that such a thing could be printed at a reasonable cost per unit, provided 10,000 or more copies were printed at a time. Considerable discussion was heard concerning the type of booklet to publish after all signified their assent to the undertaking, with the majority feeling that while it must be made attractive, it need not have color plates, which would run the cost beyond reason. It was voted to put out such a booklet and to take \$50 from the treasury to help pay for its publication, provided sufficient money were raised to cover the balance from the individual members.

Such a good response was forthcoming in the way of pledges that it was decided to follow a suggestion made by Prof. Alex Laurie, of Ohio State University, to publish also a timely leaflet of information at monthly intervals during the six months of the year when people are most interested in landscape and planting work and materials. All members were asked to send in their ideas promptly to members of the committee, so that it might assemble these ideas, condense them and have a prospective bulletin, together with prices, to show at a special meeting to be held the last Friday of February.

Howard Warwick, chairman of the auditing committee, reported his group found the treasurer's books to be in perfect condition. A discussion of co-operative buying followed, it being stated that this would be more thoroughly considered at the special meeting.

William P. Robinson, who is manager of the flower show portion of the 1938 Columbus home and flower show, announced that the dates of the show had been set for April 2 to 9, the show to be on the Ohio state fairgrounds. He told of plans of the Columbus Florists' Association in connection with the show and invited the landscapers to stage a group exhibit; he stated that a definite floor plan will be presented at the next meeting. It was voted to exhibit as a group at this show, and President Esper stated that he would appoint a committee in the near future to meet with a similar committee appointed by the florists and Mr. Robinson.

The chairman of the entrance committee was informed to contact prospective members and explain the activities and benefits of the organization.

Adjournment followed, and those present were then treated to a tasty buffet luncheon, served by the host of the evening.

## NORTH JERSEY MEETING.

A meeting of the North Jersey Metropolitan Nurserymen's Association was held at the office of Russ Harmon, agricultural agent of Essex county, February 10. Prof. H. M. Biekart, of the New Jersey College of Agriculture, New Brunswick, was introduced by Mr. Harmon. He traced the propagation of ornamental nursery stock from its early stages, as he learned it in Holland, to the present methods. Much discussion was held between Professor Biekart and the members, which proved educational to those who attended.

The members then decided to have the annual ladies' dinner Friday, February 25, at the Robin Hood Inn. The entertainment committee was instructed to gather details for a visit to Washington, D. C., and report at the next meeting. The trip will be made the last part of June. A committee of three was appointed to work out details with B. C. Blackburn, the college extension staff specialist in landscape gardening, and Mr. Harmon to organize the various garden clubs in his county in a demonstration of foundation planting. The idea suggested is to enlist the home with an overgrown foundation planting, tear out this planting and replant with suitable good-quality material.

The association then placed orders cooperatively for the spring requirements of tools and grass seed.

William Hallicy, Sec'y.

## TWIN CITIES MEETING.

J. Juhl, St. Paul, president of the Twin Cities Nurserymen's Association, was in the chair at the monthly meeting held at the dining hall at University Farm, St. Paul, Minn., Wednesday, February 9. Committees for the coming year were announced by the president, who dispensed with the minutes in the absence of the secretary, Vincent Bailey, Newport, who was recovering from a minor operation.

The announced speaker was unable to be present; consequently the program was rearranged. The president was called upon to give a few of his experiences and observations made on his recent trip to the southwest and California. A great part of the time was taken up by a description of the famous

redwood forests. The president also declared the trip was worth while if only to see what conservation really meant.

John Hawkins, of the Rosehill Nursery, St. Paul, offered a few words on his trip to Florida. Prof. W. H. Alderman, chief of the division of horticulture, was next called upon for some remarks on the recent nurserymen's meetings held at Iowa State College, Ames. Professor Alderman stated that one of the most valuable papers presented at the Iowa meeting was that by Prof. B. S. Pickett reviewing all the known methods of propagation. Professor Alderman suggested that the members of the Twin Cities group make an endeavor to secure a copy of the paper.

Considerable discussion took place on the security tax and other matters of immediate interest to nurserymen. The matter of securing speakers for the March meeting was left to the program chairman, H. J. Reid. The latter referred to several members who had recently left for visits to various parts of the United States and other countries and promised to have them entertain the members on their return.

In spite of the fact that the evening's program was impromptu, it developed into an exceedingly interesting time for every one present. Roy D. Underwood, Lake City, was toastmaster at the dinner.

V. E. Johnson, of the Jewell Nursery, Lake City, was another visitor.

## WASHINGTON MEETING.

At a meeting of the Washington State Nurserymen's Association held February 3 in the Chamber of Commerce building, Seattle, Wash., President W. L. Fulmer, Seattle, presided, and about half of the fifty-nine members were present.

J. I. Griner, supervisor of horticulture for the state of Washington, discussed quarantine 37 and its effect on nurserymen of the state. He suggested action through senators and representatives at Washington, D. C., was the most effective way of expressing the sentiment of nurserymen on this matter.

Some of the history of plant quarantines and their workings was explained by Mr. Reynolds, of the state department of agriculture. Questions from the floor were then answered by Mr. Griner.

Plans were discussed for the organization of local nurserymen's clubs. Few

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ULMUS pumila, commonly called Chinese or Siberian elm, and ULMUS parvifolia, Lacebark elm.

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members of the state organization from a distance attend the monthly meetings, and so far the majority of members have come from the Seattle district. Local nurserymen's clubs might function as units of the state organization, which would probably hold two or three meetings during the year. This matter had been presented in detail in the "Eye-opener" sent out by President Fulmer and Secretary Harold T. Hopkins.

Howard Andrews, Seattle, suggested that a committee of five be appointed to draft a letter to be sent out to nurserymen of the state urging the formation of such clubs. When this was voted, Mr. Andrews was made chairman of the committee, with authority to select his assistants.

It was announced that R. R. Williams, Tacoma, had been appointed to the committee which is studying the social security tax ruling. On the motion of Fred Drachenburg, Seattle, it was decided that a committee of three be appointed to meet and coöperate with the state landscapers' organization.

**PENNSYLVANIA DEALER'S BOND.**

Under act 241 passed by the Pennsylvania general assembly and signed by the governor March 27, 1937, wholesale commission florists, dealers in nursery stock and any others who handle farm produce on consignment or on a net return basis are required to file a surety bond of at least \$3,000, to secure a license for each place of business and to keep records regarding such transactions. The act makes it unlawful for any dealer in farm produce to engage in business in Pennsylvania after December 31, 1937, without such license, under the penalty of fine or imprisonment. It is therefore important that those subject to the tax take immediate steps to comply with the requirements.

Under the act, farm produce is defined to include horticultural and floricultural products of the soil and specifically mentions flowers. Spot cash transactions are exempted by the act, but any dealer who secures his supplies or any portion of them direct from producers and does not pay spot cash in every instance is required to file the bond and secure the license required by law. The license fee is \$10.

An important provision is that which requires that the dealer make and preserve for at least two years a record of transactions showing the name and address of the producer, date of receipt of produce, kind and quality of the produce, amount sold, name and address of the purchaser, selling price thereof and items of expenses connected therewith. Where produce is handled on a net return basis and on consignment, an account of sales together with payment and settlement shall be mailed to the producer within forty-eight hours after the sale of such farm produce, unless otherwise agreed in writing.

James L. States, chief of the bureau of markets of the Pennsylvania department of agriculture, explained the provisions of the act before the recent convention of the Pennsylvania Nurserymen's Association, and the number in the trade who had not heard of the act led him to present a statement to the trade press regarding its requirements, summarized above.

**Azalea mollis**

(Chinese Azalea)

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# New Horticultural Books

## NEW GARDENING GUIDE.

"Gardening" is the title of a new 550-page reference work on garden making, written by Montague Free and published by Harcourt, Brace & Co. It was planned to be comprehensive, but not too long, adapted to the needs of the average gardener, indoors and out. In it have been included the answers to problems which have proved puzzling to both amateur and professional gardeners as revealed by the questions the author has been called upon to answer for more than twenty years in the classrooms and correspondence of the Brooklyn Botanic Garden and for the past five years in thousands of letters addressed to the Garden Guide department of the New York Sun, conducted by the author, who is a graduate of the Royal Botanic Gardens, Kew, England, and well known in the horticultural field.

It is, in the main, a practical book, with ample details on how garden operations are performed, supported by some explanation of the principles involved. The descriptive lists cover subjects generally proved for value; some named varieties are included for the guidance of novices. Excerpts from articles prepared by the author for other publications have been used. Special attention is given to garden planning, pruning, propagation, insect and disease control and specialized gardens. Information on planting distances is given in tabular form, together with height, time of flowering and other data for each item.

Numerous cross references and an extended index aid in extracting the information sought. Illustrations include 125 line drawings and seventy-three half-tone plates, among the latter being a number taken of material growing at the Brooklyn Botanic Garden. The book is clothbound and is offered for sale at \$3.50 per copy, postpaid.

## TEXTBOOK OF DENDROLOGY.

The latest edition to the American forestry series published by the McGraw-Hill Book Co. is "Textbook of Dendrology," covering the important forest trees of the United States and Canada, by William M. Harlow, assistant professor of wood technology at the New York state college of forestry, and Elwood S. Harrar, associate professor of forestry at Duke University and formerly assistant professor of forest products at the University of Washington.

In the preface, the authors explain the purpose of this new book on North American trees. Previous publications have nearly all been written from the botanical or taxonomic standpoint and in general treat each species in the same detail, whether the book is encyclopedic in character or a local manual. Since it is obviously impossible for a beginning student in forestry to gain an adequate knowledge of more than a few of the thousands of tree species native to this continent, it seemed to the authors desirable only to cover as many genera as possible to illustrate these with the species of greatest importance to forestry. This is the authors' attempt in the present book, which is, furthermore, well

illustrated with photographic reproductions.

Because the book is not comprehensive for any one portion of the country, detailed keys are omitted, and instead are used tables covering family and generic characters.

An introductory chapter of thirty-eight pages reviews methods of nomenclature and classification, terms of identification and an analysis of the form of presentation of descriptions of species in the book. The remainder of the book of more than 500 pages is devoted to descriptions by families, genera and species. A glossary is included, a long list of selected references in the literature on North American trees and a full index to the volume.

Not only is the book important for the student in forestry, but it should be of assistance to nurserymen who wish to extend their knowledge of North American trees. The price of the book is \$4.50.

## "ROSE MANUAL" REVISED.

"The Rose Manual," the encyclopedic work covering the rose field, written by the late Dr. J. H. Nicolas, has been issued in a revised edition. Doubleday Doran & Co., the publishers, have added a note to the preface to the effect that just before the author died, last September, he reread the text in preparation for the new volume. As a consequence, the lists of varieties were brought strictly up to date and information on a new group, classed as floribunda, was included. The text also gained some data relative to insect control and plant feeding.

The floribunda group, derived from various Arctic species or sources, is said

to bring the rose closer to the perennial status in the garden, being marked by permanence, continuity of bloom and ease of culture. The flowers, characteristically, are fairly large, from single to double, and include the entire range of colors known in the rose. These roses are ideal for mass plantings, it is said. Thirty-seven varieties in the floribunda group are listed, with their colors and petalage.

Dr. Nicolas' book is based on forty years' experience with roses, during which time he attained a preëminent position in the rose world. He had at his disposal for study and experimentation the enormous plant material accumulated by the research departments of the commercial rose growing firms with which he was associated during many years of his life. He also was in regular communication with rose authorities the world over.

As a comprehensive and practical dictionary of the rose, with accurate information on its varieties, its cultivation and its hybridization, and with copious illustrations and valuable color charts, the book should continue to appeal to all rose growers, professional as well as amateur. The price is \$2.50 per copy, postpaid.

## HAND LIST OF CONIFERS.

In an attempt to establish some uniformity in the labeling of conifers, a conifer hand list has been compiled by P. den Ouden, senior member of the firm of H. den Ouden & Son, N. V., operators of the Old Farm Nurseries, Boskoop, Holland. It is the work of nine years of study and research, undertaken at the request of the Dendrological Society of The Netherlands, and bears the

## CARAGANA ARBORESCENS

	100	1000	5000
6 to 9 ins.	\$1.00	\$6.50	\$23.00
9 to 12 ins.	1.25	9.00	35.00
12 to 18 ins.	1.60	12.50	...
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2 to 3 ft.	3.00	25.00	100.00
3 to 4 ft.	5.00	44.00	...

Strong, well rooted stock; larger sizes mostly well branched, lots of them suitable for resale at retail.

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Ornamental Trees, Shrubs and Evergreens

Can supply Carload lots.

Send want lists.

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## BOYD NURSERY CO.

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Hardy, 2-year, field-grown budded stock. Finest stock ever grown. Write for List.

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20,000 **ELMS, American, Vase, Moline**, up to 4 inches, transplanted.

4,000 **MAPLE, Norway**, up to 2 1/2 inches, transplanted.

2,000 **WILLOW, Thurlow**, 8 to 10 ft. and 10 to 12 ft.

10,000 **SPIREA, Vanhouttei**, 3 to 4 ft. and 4 to 5 ft.

Send for list on many other items.

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## BARBERRY THUNBERGII SEEDLINGS

1-year

6000, 3 to 6 ins. 8000, 6 to 9 ins.

25,000 *Ampelopsis Veitchii*, 1-year seedlings

2,000 *Ampelopsis Veitchii*, 2-year transplants

*Asparagus, Pedigreed Washington*, 2-year

*Hydrangea Pee Gee*, 2 to 4 ft. and 4 to 5 ft.

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20,000 *Atropurpurea*

100,000 *Thunbergii*

Also *Barberry Thunbergii* seed

100,000 *Rose Multiflora Japonica*

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### MOLINE ELM

All sizes from 8 to 10 feet up to 4 inches. Transplanted. Carload quantities our specialty.

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Own roots, heavy bodies  
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endorsement of S. G. A. Doorenbos, president of that organization.

For the benefit of English readers, the foreword and introduction have been translated into English in a separate pamphlet included with the book. The hand list itself is divided into three sections. After a bibliography, which contains all the standard works on the subject, the first section is made up of correct botanical names of conifers listed according to genera. The second part contains the most prevailing synonyms placed opposite their correct names, which follow the list of the first section. In the last division, the common names of conifers in Dutch, German, French and English are given, with the corresponding correct botanical names, so that the nurseryman has a wide range of cross references at his disposal.

The pamphlet may be obtained with a paper cover for \$2 or with a heavy cover for \$2.50 from the publishers, the Boskoopse Handesdrukkerij, Boskoop.

### SOUTHWESTERN NEWS NOTES.

J. W. Sarver, who for the past year has managed the Dallas branch of Baker Bros. Nursery, Fort Worth, Tex., has established a nursery and landscape business at 5031 Bryan street, Dallas, Tex., known as the Sarver Nursery Co.

Carl T. Hansen, who for several years conducted the Hansen Nursery, one mile north of Chanute, Kan., killed himself February 16 by hanging. A World war veteran, he had returned the night before from the Veterans' hospital at Wichita. Mrs. Hansen and four children survive.

F. A. Ogren, formerly with Ogren-Roach Seed Co., Hutchinson, Kan., is now proprietor of the Valley Feed & Seed Co., 517 West Douglas street, Wichita, Kan.

W. M. Honeycutt is manager of a branch nursery which Baker Bros. Nursery, Fort Worth, Tex., established recently at Albuquerque, N. M. Baker Bros. Nursery also has branches at Dallas and Lubbock, Tex.

Miles George, formerly with Williams & Harvey, Kansas City, Mo., is now in the landscape department of Worden & Co., Wellington, Kan.

Andrew Elson has been appointed landscape gardener for the University of Kansas, at Lawrence. Mr. Elson, who until recently was with the state highway commission, stationed at Norton, received his degree, in 1933, from Kansas State College, where he majored in landscape gardening.

November 24, 1937, the T. Lee Adams Seed Co., Kansas City, Mo., filed a petition for reorganization under section 77B of the bankruptcy act. May 9, 1938, a hearing will be held before Judge A. L. Reeves in the federal building, Kansas City, on debtor's petition "for order fixing time and manner of presentation of claims and classifying creditors and stockholders."

### PEACH TREE PATENTED.

A new peach tree plant patent was issued February 15, 1938, as reported by Rummel, Rummel & Woodworth, Chicago patent lawyers:

No. 271. Peach tree, Marsh Harpole, Mount Vernon Ill., assignee to Stark Bros. Nurseries & Orchards Co., Louisiana, Mo. The new and distinct variety of peach tree, characterized by its extraordinary hardiness, vigorous growth and late season of ripening, substantially as described.

## SPRING BARGAINS

• American Linden, 2-in.....	\$1.35
• White Elm, 2 1/2-in.....	1.30
• Sugar Maple, 8 to 10 ft.....	.85
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• Nioe Willow, 6 to 8 ft.....	.55
• Alpine Currant, 24 to 30 ins.	.30
• Spirea Thunbergii, 2 to 3 ft...	.14
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### SILVER LACE VINES

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Let us make up your cuttings from our tried and proven "MOTHER BLOCKS." Genuine Amoor River North Privet. All cuttings hand sorted. Cash with order price, \$1.50 per 1000, 5000 for \$5.00. Packing free. Order at once.

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Lining-out Stock a Specialty

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## AMOOR PRIVET

Bushy 2 to 3 ft., 6 to 15 canes

Excellent for landscaping

**\$55.00 per 1000**

*Spiraea Fruebeli*, and Ural Willow

Same price

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## HARD MAPLE

At sacrifice prices to reduce surplus  
6 to 8 ft. to 2-in., 40c and up.

Can use some exchange.

**Perry Nurseries, Perry, Iowa**

### Attention, buyers of AMERICAN ELM TREES

5,000 exceptionally fine, clean American Elm Trees, average 3-inch diameter, to be disposed of for spring planting at bargain prices. Whole-sale only.

**C. A. BROWN**  
Madison St. Hinsdale, Ill.

## CATALOGUES RECEIVED.

[In writing for a copy of any of the catalogues reviewed below, please mention that you saw it described in The American Nurseryman.]

Willis Nursery Co., Ottawa, Kan.—The wholesale price list for winter 1938 is a booklet of thirty-six pages, presenting shrubs, trees, evergreens, roses, vines and such material as perennials, peonies, water plants and bulbous stock. Included in the nursery material are seedlings and lining-out stock. There are fruit offerings. A separate sheet shows in color a new honey-suckle.

L. E. Williams Nursery Co., Exeter, N. H.—Among the native trees, shrubs, plants and bulbous stock listed in the wholesale price list are ferns, orchids, vines and ground covers and evergreens. A list of miscellaneous plants is alphabetical, commencing with achilles and progressing through a number of varieties of violas.

Shenandoah Nurseries, Shenandoah, Ia.—Dated February 21, with an index, comes the 62-page trade list. Offered are fruit stock, including platings; ornamental trees and shrubs, evergreens, vines, hedging, roses and an extensive list of perennials. Spring bulbs, including gladioli, and peonies are presented.

Tingle Nursery Co., Pittsfield, Md.—Avalaues are listed in considerable variety in a 48-page booklet. Boxwood and heather are also presented in numerous varieties, with holly. There are named lilacs and other ornamental stock, including both evergreen and deciduous material. On the back of this wholesale list is printed a map of the Pittsfield environs.

McConnell Nursery Co., Port Burwell, Ont.—Indexed, a 52-page catalogue is liberally illustrated within in black and white, with covers in interesting color. A great assortment of nursery material, plus perennials and bulbous stock, is offered. There are planting plans.

Farmer Seed & Nursery Co., Faribault, Minn.—Trees, shrubs, flowers and vegetables for the gardener, plus seed seeds for the farmer, are offered in this catalogue, copiously illustrated in black and white, with inserts and covers in color.

Oscar H. Will & Co., Bismarck, N. D.—The firm's fifty-fifth catalogue is a veritable picture book, presenting flowers, vegetables, fruits and other nursery material. The cover reproduces a recent painting of an Indian priest singing the dew song in a cornfield.

Inter-State Nurseries, Hamburg, Ia.—With numerous illustrations in color, and additional ones in black and white, the Inter-State catalogue offers a vast assortment of material for the home garden. There are flowers, fruits, vegetables and ornamental trees and shrubs.

Conard-Pyle Co., West Grove, Pa.—The booklet "Beautify with Roses" contains material on the history of roses, the selection of varieties, their requirements and how to use roses as decorations. There are planting plans and reproductions of photographs of rose gardens. Sketches show the differences in the varying types of growth. The inside back cover presents an introductory offer of six everblooming sorts.

Brookdale-Kingshighway, Bowmanville, Ont.—General nursery catalogue in which special attention has been given to present requirements, with resulting additions to the shrub and perennial sections. Many novelty roses have also been added, it is said. Leading groups are climbers, evergreens, shrubs, dahlias, trees, perennials and roses. There are suggested lists for rock gardens and for shady places.

Bristol Nurseries, Inc., Bristol, Conn.—Colorful circular depicting the new hybrid Korean numu for 1938, along with the former offerings.

C. R. Burr & Co., Manchester, Conn.—Bulletin No. 1, dated February 8, listing wholesale prices on spring nursery requirements, such as shrubs, roses, perennials, fruit trees, evergreens, ornamentals and multiflora japonica rose seedlings.

James I. George & Son, Fairport, N. Y.—"Clematis," a handsome and valuable reference catalogue devoted chiefly to clematis, of which about forty varieties are offered, along with a group of fifteen ornamental vines. The engravings, both half-tone and color, are more plentiful than in last year's edition. Cultural data are useful.

Bobbink & Atkins, Rutherford, N. J.—Another of the firm's excellent catalogues releases, noteworthy for color illustrations, clear printing and good paper. Roses are given first place, the cover presenting three new recommended varieties. A foreword by L. C. Bobbink tells some accomplishments of forty years in producing roses and other choice garden items. Evergreens, flowering shrubs, perennials and vines complete the listings.

Mount Arbor Nurseries, Shenandoah, Ia.—Wholesale bulletin, dated February 10, offering a large and complete assortment of general nursery stock. Mention is made of limited quantities among apple varieties, and special attention is called to a fine lot of plum trees. Bulbs and packaged stock appear near the end of the 80-page list.

Wayside Gardens Co., Mentor, O.—Many illustrations, about half of them in beautiful color, distinguish the firm's wholesale catalogue of hardy and rock plants, lilies, other bulbous material and roses. Given a 2-page spread is *Berberis* *Mentorensis*. Containing the same fine color work, with additional black and white half-tones, is the retail catalogue of hardy plants, presenting also some shrubs, including roses.

## CANADIAN TRADE AGREEMENT.

The United States Department of State is ready to discuss a new reciprocal trade agreement with the Dominion of Canada and has listed flowers and tree and shrub seeds among the import commodities which may be subjected to lower tariffs or be entered to the United States duty free, Secretary Cordell Hull announced last week. Among the products of Canada, tariffs of which will be the subject of barter, and the amounts they now pay, are: Cut flowers, fresh, dried, prepared, or preserved, forty per cent of value; tree and shrub seeds, 2 per cent per pound.

Horticultural interests who oppose concessions to Canada on these commodities may submit briefs and file applications to be heard prior to March 12. Public hearings will be conducted by the committee for reciprocity information April 4.

The mere listing of commodities which will be subject to tariff readjustments does not mean that duties will be reduced or wiped out, Secretary Hull explained. He said: "In the case of many of the products included in this list it may be that no concession will be made; it may be that the existing import duty merely will be bound, without reduction; it may be that only a part of a given tariff classification, as set forth in the list, will be affected by the agreement; or it may be that a concession, if made, will be limited as to the quantity of the product to which, or the season during which, the concession is applicable. No further reduction will, of course, be made in any import duty which has already been reduced by fifty per cent in any agreement concluded under the authority of the trade agreements act."

## COLORADO QUARANTINE.

Under a quarantine for peach mosaic announced by Roy G. Richmond, state entomologist of Colorado, effective January 20, 1938, shipment of plum trees is prohibited and shipments of peach and nectarine trees or parts thereof capable of propagation are restricted, with respect to certain regulated areas in western states where this disease is known to exist.

The Central California Nurserymen's Association held its February meeting February 10 at the Fior D'Italia restaurant, San Francisco.

## DUTCH BURLAP SQUARES

For balling evergreens, 8 sizes, 14 to 40-in. 500 per bale.

CHINESE TONKIN CANES—for staking trees, evergreens, etc. Medium and heavy in 11 sizes.

REED NURSERY MATS—heavy, strong, lasting, 6 to 7 ft. 3 sizes.

GRANULATED PEAT — finest horticultural grade. Single bales to carloads.

RAFFIA—Red Star Brand and 3 other brands. Bale lots or less.

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Power and Hand Sprayers, Spray Materials and Dust Mixtures, Hand and Power Dusters, Sprayer Accessories, Gums, Rods, Nozzles, Hose, Weed Killers, Wood Preservatives, Hydrometers, Hygrometers and Magnifiers.

No general catalogue. State your requirements for prompt cash quotations; no obligation. Address

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Wholesale and Retail  
Flora Dale, Pa.

## European Mountain Ash Seedlings

(*Sorbus Aucuparia*)

6 to 12 ins. ....	\$10.00 per 1000
12 to 18 ins. ....	15.00 per 1000
18 to 24 ins. ....	20.00 per 1000
24 to 30 ins. ....	25.00 per 1000
36 to 48 ins. ....	50.00 per 1000
500 at 1000 rate	

MOUNT VERNON NURSERY  
Mount Vernon, Wash.

## APPLE TREES

20,000 2-year and 1-year-old trees at clean-up prices. These trees run largely to the heavier grades. Carload rates to eastern shipping points.

Send for price list.

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**TIE** cut flowers—rosebushes—shrubs—perennials—for store and individual trade or retail mail orders—small fruits—counted seedlings—young plants—and so forth.

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MILWAUKEE, WISCONSIN

## RASPBERRIES

	1-yr. No. 1 Per 1000	Per 1000
Taylor (Red)	\$25.00	
Indian Summer (Red)	35.00	
Sodas (Purple tips)	22.50	
Marion (Purple tips)	\$35.00	
2-year and other grades		

Special prices on larger quantities. Let us quote you on your future needs.

Dunham's Grand Mere Nurseries  
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## CHIEF and LATHAM RASPBERRIES

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FARIBAULT, MINN.

**Wholesale Growers of**  
Grapevines, Currants,  
Gooseberries, Blackberries  
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**STRAWBERRY PLANTS**  
No better plants grown than Hill's high-grade, true-to-name, well graded, new and standard varieties. A trial order is convincing. Let us quote you on your requirements.

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With the Best  
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Evergreens — Shrubs  
Lining-out Stock  
Send for Complete Trade List  
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**CONCORD GRAPEVINES**  
100 1000  
Strong heavy rooted..... \$1.00 \$25.00  
Lighter vines..... 2.00 18.00  
Rooted cuts..... 1.00 9.50  
Cuts, 3 to 5 joints..... .30 .95  
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Strawberry Plants**  
Complete list of all the new varieties.  
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Write for wholesale price list.  
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Salisbury, Maryland

## JAPANESE BEETLE CAMPAIGN.

The results of the last year's campaign against the Japanese beetle were reported recently by the bureau of entomology and plant quarantine of the United States Department of Agriculture. The year in general was characterized by the apparent success of suppressive measures which have been going on since 1934. The outstanding achievement was in St. Louis, where the number of beetles revealed in 1934 was 1,351, last year 88, and this year 1. A total of 111,000 traps was set last year, in twenty-five states extending from Vermont to Florida and as far west as Colorado, with a few in southern California.

No beetles were found in the cities in Florida which were scouted. A few were found in the other southern states, but no immediate control measures were thought necessary. In North Carolina, there was little change from 1936. Activities in the most heavily infested area, around Charlotte and Greensboro, are under state supervision.

The northern states showed definite improvement where soil treatment has been carried on. In Indianapolis, additional acreage was treated last fall when trapping revealed a few beetles outside the previously treated area. Small infestations persisted at Fort Wayne and South Bend, Ind. Approval of a state-sponsored W. P. A. soil-treating project for South Bend is pending. At Chicago, Ill., where a heavy infestation was discovered in 1936, considerable progress was made under a state-federal program.

In states only partially under quarantine regulations, occasional localized infestations were discovered, as at Wakefield, Va.; Hedgeville, W. Va., and Ashatabula, O. New infestations were almost all small. Of those under observation and treatment, most showed a decided improvement. Wheeling, W. Va.; Erie, Pa., and Rochester, N. Y., were notable examples of cities in which the infestation had increased during the last year. California, Colorado and Vermont reported no beetles trapped.

Quarantine enforcements resulted in fewer living beetles' being discovered in refrigerator cars from the heavily infested areas, although the number found at midwestern terminals in shipments from the whole eastern section was about the same. Nineteen out of twenty infected cars came from the eastern shores of Maryland and Virginia.

In experiments with fumigants for potted plants at the bureau laboratories, paradichlorobenzene has been found effective for use on small azaleas and a limited number of perennials.

Dr. Lee A. Strong, chief of the bureau, believes that there is need only for local extension of the regulated areas. In Illinois, Indiana, Missouri, North Carolina, South Carolina and Michigan, where established infestations have been found previously, control programs now under way and other safeguards are thought to be adequate. No quarantine hearing to consider extension of the area or modification of the present regulations will be held this year.

W. G. MCKAY, president of the McKay Nursery Co., Madison, Wis., is vacationing in Florida, planning to return early in March.

## CERTIFIED RASPBERRIES

	Per 1000
Taylor, No. 1.....	\$25.00
5000 or over.....	22.50
Taylor, heavy transplants.....	35.00
McMurry, No. 1.....	30.00
McMurry, purple, No. 1.....	47.50
Sodas, purple, No. 1.....	22.50
June, purple, No. 1.....	15.00
Latham, No. 1.....	12.50
Cuthbert, No. 1.....	12.00
Columbian, purple, No. 1.....	14.00

No charge for boxing.

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Hoosick Falls, N. Y.

## Wholesale Growers of Strawberries, Raspberries, Blackberries and Grapevines In All Varieties.

Let us quote on your requirements

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## GRAPEVINES, PEACH and SHADE TREES, BLACKBERRIES, SHRUBS

**WILLOWBEND NURSERY**  
PERRY, OHIO

## STRAWBERRIES

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Blakemore, Missionary, Klondike, Aroma  
\$1.50 and \$2.00 per 1000

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General line of Small Fruit plants  
Trade list sent on request

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Our experience in growing these items since 1890  
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Dried Herbs for Flavoring and Fragrance.

Other plants of unusual character and  
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## OBITUARY.

## Henry Sargent Dawson.

Henry Sargent Dawson, former manager of the Eastern Nurseries, Inc., Holliston, Mass., died the morning of February 4 in his fifty-third year. A member of one of the most prominent horticultural families in this country, Mr. Dawson received much of his early botanical knowledge at Bussey Institute, which was at that time situated at the Arnold Arboretum. He also had training with Ferruccio Vitale, a well known landscape architect. Besides operating a nursery, which was especially well known for its rare woody plants and which included a collection of heather that was the parent of most of the heather plants now found in the United States, Mr. Dawson was recognized as an outstanding propagator. He was also the supervisor of many landscaping projects.

Mr. Dawson is survived by his widow, Pauline Dawson, and two brothers, James Frederick Dawson, a senior partner of Olmsted Bros., Brookline, and William F. Dawson. Funeral services were held at the St. Andrew's Episcopal church, Framingham, and interment was at Pine Grove cemetery, Sherborn, February 6.

## Charles J. Sander.

The death of Charles J. Sander on February 8 at his home, 63 Royal street, Wollaston, Mass., at the advanced age of 91, removed one of the oldest and finest practical gardeners in the United States. Born in Germany, Mr. Sander followed the sea in his early years. Drifting to the United States, he came under the observation of Prof. Charles L. Sargent, for half a century director of the noted Arnold Arboretum and one of the world's greatest authorities on trees and shrubs. For nearly fifty years the deceased had charge of Professor Sargent's beautiful and well known estate, Holm Lea, in Brookline, which was one of the Meccas for all those interested in hardy plant material.

During his long stay at Holm Lea, Mr. Sander became one of the most skillful propagators of woody plants in the United States.

Among the plants raised by Mr. Sander were new types of greenhouse azaleas, hybrid elacias (imantophylums) nerines and hippeastrums. After the death of Professor Sargent and the disposal of Holm Lea, Mr. Sander bought a home in Wollaston and here, in spite of his advanced years, he brought into being one of the most interesting gardens to be found in this section, raising choice rhododendrons, azaleas, tree peonies and other types of peonies from seeds collected at Lhassa in Tibet by Rock; eremuri, acidantheras and other interesting material.

Even after passing the age of 90 he could be found daily diligently at work.

His last illness lasted less than three weeks. Funeral services were attended by a large number of his friends, and burial was in Walnut Hill cemetery, Brookline, February 11. Mr. Sander's wife preceded him in death by several years. Mr. Sander had made his home with his daughter, Gertrude, who, with a married daughter, Mrs. Thompson, survives.

## Dr. Arthur D. Houghton.

Dr. Arthur D. Houghton, proprietor of the Houghton Gardens, San Fernando, Cal., died of a heart attack at the Good Samaritan hospital, Los Angeles, January 23. Dr. Houghton was born in England, in 1872, and there received his education and a medical degree. He entered the practice of medicine, later serving on the medical staff of the

## SITUATION WANTED

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## FOR SALE

Your opportunity to get into business for yourself. \$5,000 buys established nursery business, nursery stock and supplies (estimated value, \$10,000); clear of indebtedness; also equity in 90-acre farm and home. Particulars on request; immediate possession. Within 50 miles of the Twin Cities and ideal place to live. Geo. W. Strand, Taylors Falls, Minn.

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Retail nursery business and farm consisting of 19 1/2 acres. Located near prosperous city in the middle west. For details address No. 90, c/o American Nurseryman, 508 S. Dearborn St., Chicago, Ill.

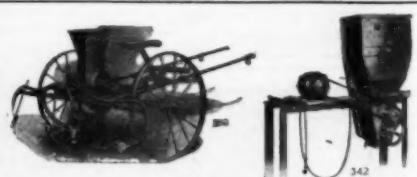
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British army. During the World war, Dr. Houghton served in the United States army and later was one of the founders of the American Legion.

Cacti and succulents were his hobby,

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Fine Quality Wood Labels, all sizes, plain, painted, wired, printed. P. Heinze & Co., Arlington Heights, Ill.

Evergreens. Rhododendron Maximum, Mountain Laurel, Canadian Hemlock, Azaleas, Flowering Dogwood and Red Cedar. Seedlings specially priced. Write for wholesale price list. Appalachian Evergreen Co., Doeville, Tenn.

Evonymus Vegetus, rooted cuttings, 6 ins.; strong, 2 1/2 in.; 1-year, 6 to 8 ins., 5c; 2-year, 8 to 12 ins., 10c. Taxus Hatfieldii, bushy XX, 15 to 18 ins., 40c. Fothergilla major, 3 to 4 ft., \$1.00; 4 to 5 ft., \$1.50. Van der Voet Nursery, Taunton, Mass.

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Pyracantha 2 1/2-in. pots ..... 10.00 80.00

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**SEEDS**

	Per % lb.	Per lb.
Apple Seed, French Cedar Crab	....	\$0.45
Quercus, northern acorns, see our ad in January 15 issue.	....	
Rhododendron ponticum, for under- stock; oz.	\$1.50	....
Arbor-vita, American	.85	2.75
Arbor-vita, Oriental	.35	1.25
Hemlock, from its Southern Range	1.60	4.75
Hemlock, true Northern	1.00	6.75
Pine, Austrian	....	1.25
Pine, Red or Norway (resinous), a fine grade of domestic; new crop seed	2.85	8.50
Pine, White	.60	2.00
Spruce, Canadian (White)	.50	1.75
Spruce, Norway, Lowland Race of Northern Europe, an extremely hardy and vigorous strain, of dark green color	.70	2.25
Spruce, Norway, French seed, the fastest growing strain	.45	1.50
Spruce, Norway, Austrian seed	.30	1.00
Seed of Fothergilla monticola as described in February 15 issue is available from us.	....	

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P. O. Box 131, Jamaica Plain, Mass.

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Jute, Cotton, Sisal, Java? All de-  
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Salisbury, Maryland

and when he retired from practice he  
became more and more interested in  
horticultural subjects. After he had  
become nationally known in the trade  
by his book on cacti, he was frequently  
in demand as a speaker at gatherings  
representing his many interests.

January 27, the body lay in state at the  
Los Angeles City Hall, where hundreds  
of Legionnaires and political and  
horticultural friends paid final tribute to  
their beloved friend. His widow,  
Florence G. Houghton, is his sole survivor.

**BALTIMORE, MD.****Outdoor Life Show Pulls Crowds.**

The Maryland outdoor life show, which  
opened Friday afternoon, February 11,  
proved a great success.

The Shipleys, Satyr Hill, Md., staged an  
interesting exhibit, with their use of  
perennials, native and exotic, transplanted  
from their nature garden.

Towson Nurseries, Inc., Towson, had an  
exquisite arrangement of hardy azaleas,  
beautifully developed plants of many vari-  
eties.

F. C. Bauer's bog garden was a lovely  
spot where visitors lingered to admire.

The Warner Landscape Service showed a  
lovely woodland scene in winter—  
snow and springtime effect.

L. H. Moss, Inc., staged an interesting  
waterfall, with a background of trees, in-  
cluding cedars, and ferns, daffodils and  
decaying stumps in the foreground. From a  
conservation and educational stand-  
point, the show is of real value. H. Lee  
Hoffman is president of the corporation.

**KANSAS CITY, MO.**

William Holsinger, of the Holsinger  
Nursery, is temporary secretary of the  
newly formed Merriam Boulevard Im-  
provement Association. Application has  
been filed with the Kansas secretary of  
state for a charter for the organization.  
The association is composed of  
thirty-seven business men along the  
boulevard from Kansas City, Kan., to  
Merriam, Kan., who plan a voluntary  
program of zoning and building regulation  
to conform with federal housing  
regulations.

**STARK'S INSTALLS STOKERS.**

The Stark Bros. Nurseries & Orchards  
Co. has equipped the boiler rooms of  
two of its buildings, at Louisiana, Mo.,  
with automatic coal stokers, of the Iron  
Fireman type. So successful have these  
stokers been, that four members of the  
concern have installed stokers in their  
residences.

Lawrence Stark, office manager, sum-  
marizes the company's experience with  
automatic coal firing in the following  
statement:

"Not only have the stokers saved  
money for us in the cost of heating,  
but also they have greatly increased  
the efficiency of our employees. In view  
of the fact that our selling and ship-  
ping season is comparatively short, it is  
important that our employees be free  
from sickness during the rush season."

JOSEPH H. BROWN, 66, owner of the  
Highland Nurseries, Dallas, Tex., died  
February 5. He had been in the nursery  
business at Dallas for ten years.

**ATTENTION  
NURSERYMEN!**

*Spray with, and  
recommend*



**IMP.  
SOAP  
SPRAY**

**Use 1 part with 25 to 40  
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Overhead irrigation supplies  
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them too. They'll stand  
for years, at any marking, or  
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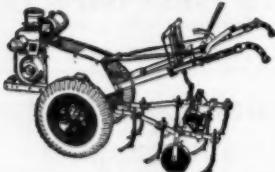
Investigate this opportunity. Course has been thoroughly tested. Start your upward climb today. Ten men in one nursery in Nebraska took the course—to their profit. Send a postal today for catalogue.

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FOR \$134 LESS THAN THE COST  
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Plows—Harrows—Plants—Cultivates—Fertilizes—  
Mows—Dusts—at an astonishingly low operating cost

Handles belt jobs, too!

You can't beat a Planet Jr. Garden Tractor for economy—and you probably couldn't begin to equal it for time-saving and labor-saving service. It will work all day—every day—through dust and heat. Provides perfect balance, patented steering, convenient throttle control.

Planet Jr. is built for years of trouble-free service. All parts are light and sturdy. Specially constructed motor overcomes cultivation obstacles. Rigid welded frame insures proper alignment. With rubber tires or iron wheels. Write for Catalog.

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FOR  
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BENJAMIN CHASE  
COMPANY  
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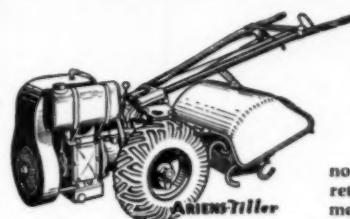
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